

.. Our .. Communal Health

PUBLISHED BY THE
CONSOLIDATED BOARD OF HEALTH
OF
Wilmington *and* New Hanover County
North Carolina



1-9-3-6

*From the North East River to Federal Point, and from
the Cape Fear to the Sea—City, Suburb, Village
and Farm—we are one people striving
for healthful and useful living—*

The Library
of the
University of North Carolina



Collection of North Caroliniana

Cp 614.06

N54

1936

*This book must not
be taken from the
Library building.*

15 Je '38

OUR COMMUNAL HEALTH

FOR THE YEAR 1936

NEW HANOVER COUNTY BOARD OF HEALTH
WILMINGTON, NORTH CAROLINA

Gentlemen:

I hereby submit to you the report of the activities of the Health Department, as summarized by the head of each administrative division, for the year 1936.

The number of deaths caused by the various diseases and the age at which our citizens died are presented in tables and graphs covering the year 1936 and the preceding years in order that results of public health activities may be evaluated in terms of disease prevention and extension of the span of life. In Table No. 1, the deaths which have occurred in Wilmington and rural New Hanover county are tabulated according to the cause, race, sex, and age. In Table No. 2, you will find a comparison between data of the year 1936 and the years that have gone before it. The crude death rates are given in Table No. 3 and expressed graphically in Fig. No. 1. The tabulation of births and of communicable diseases is given in Tables No. 4 and 7 respectively.

None of the communicable diseases visited us during the past year in epidemic proportions. Reference to mortality records, Table No. 1, will show no deaths from smallpox, measles, or scarlet fever. Excluding non-residents, we had one death each from typhoid, diphtheria, and whooping-cough.

Diphtheria

In our comment on diphtheria last year we said in part: "It is encouraging to report not only no deaths from diphtheria but only 8 cases. Of this number only 5 occurred within the city. We like to feel that this is a result of the continuous effort of pediatricians and the Health Department to secure early immunization against this dreaded disease. We may have this record marred at any time, but if the parents of young children will give their support and cooperation we can put diphtheria in a class with smallpox." and "For the first time in the history of the department, we have gone two consecutive years without a death from diphtheria." 1936 gives a much less optimistic report. We had one death and 62 (13 non-resident) cases of diphtheria. The only comfort we can find here is that there was a general statewide increase in the prevalence of diphtheria. Some authorities have implied that this increase in diphtheria indicates a lack of perseverance in our efforts in immunization against diphtheria, but I am sure such an explanation does not apply in Wilmington and New Hanover county. We are stressing immunization at the age of six months and are urging the Schick test on all preschool children examined (unless they are known to be immune). It is a pleasure to report that the cooperation of the parents of preschool children in this respect is almost 100%.

Typhoid Fever

Reference to Fig. No. 3 and Table No. 7 will show 2 non-resident and 6 resident cases of typhoid reported with 1 death. Of 24 cases of typhoid occurring during the three years prior to 1936, 21 were within the city and were colored. In 1936, we had one white and 2 colored typhoid patients in the city and 1 white and 2 colored in the county.

For the past two years we have had our colored nurses hold numerous small inoculation clinics at colored homes, churches, and lodges within the city in an effort to reach those who will not come to the Health Department Clinic. Having only 2 colored cases within the city, as compared to a yearly average of 7 for the past three years, may indicate that this method is producing results. All the county cases were near each other, and the first case was in a man who traveled about over the state quite a bit.

P22304

Measles

When we observe that measles epidemics return rather consistently at three or four year intervals, we may expect an epidemic probably in 1938 or 1939. To our lay readers we urgently recommend the use of convalescent serum in the case of very young or very frail children whenever the epidemic comes.

Tuberculosis

Tuberculosis stood fifth from the top among the causes of death, which was a serious increase over last year. There were 39 resident deaths from this cause in 1936 as compared to 29 in 1935. There will always be some variation from year to year, but a 34% increase is much more than should be explained by yearly variation. In our 1932 report there was this comment: "We are fearful of what may be expected in the near future from tuberculosis among the negro population as a result of under-nourishment, exposure, etc., due to the financial depression and unemployment." This and many other factors probably enter into this problem. Negroes were the chief sufferers. Within the city, 15 out of 18 were negroes; in the county 16 out of 21.

The tuberculin test is used freely in our clinic and is offered each year to seniors in the white and colored high school. It is also recommended to frail children, contacts, and suspects in the under classes.

The State Sanatorium furnished us a trained clinician and fleuroscope without cost to conduct a one-week free tuberculosis clinic for adults. These examinations were by appointment and practically every appointment was taken.

No reference to the control of tuberculosis here is complete without special comment on the Red Cross Sanatorium. This little sanatorium, supported partly by City-County funds and partly by philanthropy, is more and more becoming a thoroughly equipped, highly specialized hospital for the diagnosis and treatment of tuberculosis. Many borderline cases could well afford to take advantage of the facilities offered here. From a public health standpoint this institution's greatest value is its equipment for collapse therapy. This is the most rapid method of changing a positive sputum into a negative one and is therefore a great protection to the general public as well as to the individual patient.

Our district nurses make several hundred visits to tuberculosis patients each year.

Parent-Teacher Associations provide milk and sometimes lunches for underprivileged children with glandular or childhood type of tuberculosis.

The use of the tuberculin skin test and the X-Ray cannot be over emphasized because early diagnosis is the all important factor in the prevention and cure of tuberculosis.

Enterocolitis

Fig. No. 4 expresses graphically the decline in the deaths due to enterocolitis under two years. Deaths from this cause have been reasonably low for the past ten years. If we exclude non-residents, there were only 3 deaths in the city and none in the county in 1936. This should be encouraging to our pediatricians, public health nurses, and dairy inspector, as they constantly stress the importance of sterilization, pasteurization, and strict cleanliness in the preparation and handling of food for infants and young children.

Pellagra

One death only was assigned to pellagra during the year. This is the best record we have had in many years, however, there were 21 cases reported. Our department is helped very much by the home demonstration agent in teaching the importance of a balanced diet in curing and preventing pellagra.

Malaria

Malaria did not cause any deaths during the year, nor were there any malaria surveys made. Through a survey in 1935 (and from patients treated in 1934 and 1935) we found quite a bit of malaria in the Middle Sound and Scott's Hill sections. During 1936, however, we did not have any special trouble with malaria in these sections. As a result of our findings in 1934 and 1935, the W. P. A. malaria control officials have done extensive drainage work in this vicinity. Many miles of malaria control ditches and canals have been dug by the Federal Relief Projects. This work with reasonable maintenance should be a valuable aid in preventing malaria for many years.

Poliomyelitis

Not a single case of poliomyelitis was reported during the year. The whole state was comparatively free from this disease, as might have been expected after the alarming epidemic of the preceding year. Epidemics of this disease are usually followed by one to several years of almost complete freedom from it.

Meningococcic Meningitis

For the first time in the history of the department, we were threatened with an outbreak of meningitis. Actually, we had only 14 resident cases reported. These occurred at intervals from March to November, inclusive. The cases were confined to the colored race. Of the 14 cases, 9 died (exclusive of one death in January of a case reported in 1935). The all important factor in treatment—early diagnosis—was made impossible in many of the cases because of the failure of the family to call a physician early. The cases varied markedly from the usual in two respects. Most of them occurred in May, June, and July (10 out of 14) instead of in cold weather, and the patients were much older than one would expect. This disease is supposed to attack chiefly children and young adults. We had one case 66 years old, 2 in their fifties, and 2 in their thirties. The ones who recovered were 7, 8, 10, 14, and 14.

Infant Mortality

Table No. 5 will show that prematurity was responsible for 43.2% of the deaths of infants under one year of age and considerably more than half of these infants died before they were one week old. Including non-residents, 74 babies died before they were one year old and 41, or 54%, died before they were one week old. This indicates that the problem is one of obstetrics and not of pediatrics. Special effort is made in our clinic, by our district nurses, and by the State Board of Health through literature, to teach expectant mothers the importance of careful medical attention during the whole period of pregnancy as well as during delivery. We must remember that many of these women cannot afford the proper food, rest, and housing conditions. Many of them have hard work added to poverty and exposure. In many cases, such circumstances explain the extreme frailty of the offspring.

The federal government has furnished our clinic a part-time registered nurse who has charge of prenatal patients. She takes a personal interest in every case and has done a really worthwhile work among these women. Her work is directly under the physician in charge of the clinic and all abnormal conditions are referred to him. This is a slow, but, we believe, a very effective way to teach proper prenatal care.

Maternal Mortality

Care of mothers during delivery is shown in Table No. 6. A glance at this table will show that a very high percentage of mothers are attended by physicians and mostly in a hospital.

Table No. 8 gives a record of our maternal deaths from 1914 through 1933 in five-year periods, while the record of these deaths for 1934, 1935, and 1936 begins a new period. Very little improvement took place in maternal mortality during the twenty-year period. Wilmington, along with the whole state and the south generally, has always had a rather discouraging maternal mortality record. If we consider the whites only, we find that 1936 broke all previous records for improvement with a rate of 3.9, which is really going to be hard to improve on. A rate of 11.9 among colored women is still discouraging. The hardship and exposure of poverty work their havoc among the mothers as well as among the infants referred to under Infant Mortality. We are trying to teach indigent mothers the best care within their reach. Our total maternal mortality rate for 1936 of 7.2 showed a slight improvement over 1935.

Degenerative Diseases

Table No. 1 shows that, as in the past, organic heart disease caused many more deaths than any other disease. There may be some encouragement in the fact that 53 of these people had passed the age of 65, and 48 were in the age group between 45 and 65. Deaths from the other degenerative diseases were as follows: Cerebral hemorrhage, 81; cancer, 34; and nephritis, 56. In this connection we especially recommend routine physical examinations, preventive dentistry, and properly balanced diet.

Venereal Diseases

Reference to Fig. No. 20 will show that syphilis and gonorrhea very greatly outnumber any of the other reportable and supposedly preventable diseases. The contrast would probably be even greater if all cases of venereal diseases were reported to this department. The report of the assistant health officer will show the number of Wassermanns taken and the number of specific treatments given.

The new Surgeon General of the U. S. Public Health Service has instituted an intensive nation-wide drive against syphilis, and has requested a very substantial appropriation for this work. We will, of course, participate in this campaign and try to do everything we can within the limit of our share of these funds.

Increased Length of Life

Reference to Fig. No. 11 will show a most gratifying increase in the length of the lives of our citizens as is indicated by the average age at death. In the twenty-seven year period from 1910 to 1936, the average age at death has increased from approximately 31 years to 45 years, a gain of 14 years.

The care of the indigent sick has been heavy as usual, but the W. P. A. has aided greatly in providing nurses, office attendants, and clerical help.

For the third time in succession our water has been free from salt the whole year, thanks to the dykes and tide-gates built around Toomer's Creek with C. W. A. and E. R. A. funds. Reference to the sanitary engineer's report will show that the purification processes at the water plant have been most efficient.

The report of the assistant food and dairy inspector shows that our dairies furnished milk of excellent quality the whole year.

It is impossible to enumerate all of the organizations and individuals that helped in public health work, but some of the most notable are the Wilmington Star-News in giving publicity; the Parent-Teachers Association in sponsoring the round-up of pre-school children and in distributing milk to children infected with tuberculosis; the North Carolina Sorosis in conducting a baby clinic; the Rotary Club in conjunction with the State Department of Vocational Rehabilitation in conducting an orthopedic clinic; the Red Cross Sanatorium in the care of tuberculous patients; and the James Walker Memorial Hospital in conducting the isolation ward for communicable diseases.

The reports of the various administrative subdivisions of the department are given as follows:

Assistant Health officer.....	Page 5
Sanitary Engineer.....	Pages 6,7,8
Food and Dairy Inspector.....	Page 9
Assistant Food and Dairy Inspector.....	Pages 10,11
Diagnostic Laboratory.....	Page 12
Public Health Nurses.....	Page 13
Sanitary Inspectors.....	Page 14
Incinerator.....	Page 15
Hospital.....	Page 14
Plumbing Inspector.....	Page 15
Mosquito Commission.....	Page 16

It is a pleasure to record the loyalty and enthusiasm with which the members of our staff and the W. P. A. workers in our department have performed their duties.

Respectfully submitted,

A. H. ELLIOT, M. D.

County Health Officer.

ASSISTANT COUNTY HEALTH OFFICER'S REPORT

For the Year 1936

Clinic Report

	White	Colored	Total
Number patients treated or examined in home.....			
Number home visits.....	960	696	1,656
Number patients treated or examined at office.....	2,413	5,043	7,456
Number office visits.....	3,699	8,129	11,828
Number patients treated or examined, county jail.....	93	81	174
Number visits to county jail.....			123
Number patients treated or examined, county home.....	99	26	125
Number visits to county home.....			69
Number completed antirabic treatments	1	1	2
Number treatments, hookworm.....	3	6	9
Number examinations of prisoners.....	144	149	293
Number examinations for marriage.....			
Number examinations, child for industry.....	17	9	26
Number examinations by court order.....	8	5	13
Number examinations, admissions to institutions.....	7	3	10
Number examinations for lunacy.....	18	26	44
Number examinations, postmortem	3	8	11
Number examinations, teachers.....	48	4	52
Number obstetrical cases examined.....	98	306	404
Number visits by obstetrical cases.....	288	1,057	1,345
School children examined for scabies.....	38	8	46
Children examined for other diseases.....	279	319	598
Number tonsil examinations.....	139	223	362
Number Wassermann tests (state laboratory).....	374	1,130	1,504

Number of Foodhandlers Examined

Food Establishments.....	152
Restaurants.....	95
Dairies.....	2
Hotels.....	29
Homes.....	210
Total.....	488

Venereal Disease Clinic

	Syphilis				Gonorrhea				Chancroid			
	W		B		W		B		W		B	
	M	F	M	F	M	F	M	F	M	F	M	F
New cases attending clinic	23	16	121	160	30	9	78	50	8	0	35	3
Old cases attending clinic	135	153	427	726	11	5	11	16	1	0	6	0
Number doses, arsenical..	257	197	835	1,280	71	31	89	108	10	0	44	3
Number doses, bismuth..	79	138	164	394								

Totals for Venereal Diseases

Syphilis:	New Cases, 320	Old Cases, 1,441
Gonorrhea:	New Cases, 167	Old Cases, 43
Chancroid:	New Cases, 46	Old Cases, 7

Respectfully submitted,

G. R. CARPENTER, M. D.

Assistant County Health Officer.

SANITARY ENGINEER'S REPORT

For the Year 1936

DR. A. H. ELLIOT, County Health Officer,
Wilmington, N. C.

Dear Sir:

The report of the sanitary engineer and the laboratory at the city water purification plant for the year 1936 is as follows:

Water Works

Blue prints giving complete summaries of all laboratory results and operating data accompany this report. Some of the most important results are given in the tables below.

Operating Statistics

Water treated, in millions of gallons.....	936.280
Chemicals used, in pounds per million gallons:	
Alum.....	226
Lime.....	130
Chlorine.....	4.8
Activated Carbon.....	2.05
Wash Water, per cent of water treated.....	1.81
Coal, pounds per million gallons.....	165
Power, K. W. H. per million gallons.....	559

The figures given for coal and power are for low lift pumping only, based on one-third total fuel.

Cost Data

(Does not include depreciation, interest, or insurance.)

Low pressure pumping, labor and materials.....	\$ 7,794.17
Filtration: Chemicals and materials.....	4,665.38
Supervision, labor, and laboratory.....	6,975.44
Total cost of purification.....	19,434.99
High pressure pumping, labor and materials.....	22,013.23
Total cost for year 1936.....	41,448.22
Total cost for year 1935.....	40,702.05
Total cost per million gallons, 1936.....	45.08
Cost of purification per million gallons, 1936.....	21.14
Cost of high pressure pumping per million gallons, 1936.....	23.94
Total cost per million gallons, 1935.....	44.86
Cost of purification per million gallons, 1935.....	21.38
Cost of high pressure pumping per million gallons, 1935.....	23.48

Cost for the two years 1935 and 1936 were about the same. Power and labor cost were slightly higher in 1936. Alum was slightly higher per pound but a lower dosage was used. A different method from that used in previous years was used in calculating wash water cost. Heretofore the wash water has been figured at the cost of production and so entered as one of the expenses of purification. This gave approximately correct results in cost per million gallons but made the total cost too high, as the cost of the wash water was already included in the expenses of pumping and purification. This year no item for wash water was included, but the amount of wash water was subtracted from the total amount of water treated and the cost per million gallons figured on this basis.

Annual Summary of Laboratory Results on the City Water

	Average		Maximum		Minimum	
	Raw	Tap	Raw	Tap	Raw	Tap
Color.....	57	11	200	25	40	5
Turbidity.....	51	1	400	5	5	0
Total Hardness.....	12	29	14	34	10	26
Alkalinity.....	12	21	24	31	3	13
Chloride.....	8	8	51	51	5	5
Free Carbon Dioxide.....	7	0	12	1	4	0
pH Value.....	6.2	8.5	6.4	9.4	6.0	7.6
Bacteria per ml. 37° C.....	263	4	2000	85	20	0
B. Coli per 100 ml.....	388.6	0	585.0	0	111.6	0

The chemical results given above are in parts per million.

Removal of Bacteria

	Ave. Bacteria per ml. 37° C.	Ave. B. Coli per 100 ml.
Raw water.....	263	388.6
Basin effluent.....	57	20.3
Filter effluent.....	27	0.23
Sterilized effluent (tap).....	4	0.0

Percentage Removal of Bacteria

	Bacteria	B. Coli
By sedimentation.....	78.4	94.77
By filtration.....	52.6	98.86
By sterilization.....	85.1	100
Total removal.....	98.4	100

The sanitary quality of the water delivered to the city was very high throughout the year. No members of the B. Coli group were found in samples collected at the plant tap, samples collected at various points on the distribution system each month, or in samples sent to the State Laboratory of Hygiene. The filtered water without sterilization far exceeds the requirements of the U. S. Treasury Standards as to bacterial quality

Chlorine-Resistant Bacteria

All the time since the present sanitary engineer has been here and probably since the water plant has been in operation organisms have appeared from time to time which ferment lactose broth but do not confirm as members of the B. Coli group. Chlorine seems to have little effect on them. They are probably non-pathogenic but they should be eliminated from the tap water if possible. It has been suggested that a combination of chlorine and ammonia, applied prior to filtration, would be effective. This will be investigated.

Laboratory

The following examinations were made in the laboratory by the sanitary engineer:

Total plant samples (raw, coagulated, filtered, and tap).....	2,979
Water samples from outside sources.....	1,363
Feces for typhoid.....	31
Blood for typhoid.....	7
Urine for typhoid.....	1
Postmortem for typhoid:	
Gall bladder.....	1
Contents of intestine.....	1
Filter sand analyses.....	8
Lime analyses.....	1
Water samples analyzed for iron.....	10

Salt

The dikes and dams at Toomer's Creek were very effective in keeping salt water out of the city mains. Maximum chloride concentrations observed were 51 parts per million in the tap water, 3,000 parts per million in Northeast River at Hilton, 2,950 parts per million in Cape Fear River at the highway bridge, and 525 parts per million in Cape Fear River at Navassa.

Improvements

Among improvements made at the water plant during the year are the following:

1. The clear water reservoir on the hill was covered. This will eliminate possible contamination of the drinking water and prevent the growth of taste and odor producing algae.
2. The cross-connection whereby raw river water could have been pumped into the city mains was abolished.
3. A meter was installed on the wash water line.
4. Two new chlorinators were installed.
5. A smooth water-tight floor was laid in the pipe gallery.
6. A gasoline engine stand-by was provided for high pressure pumping.
7. A new filter was installed.
8. The boiler room roof was repaired.
9. Two new electric pumps were installed.
10. Several of the old filters were overhauled.

Respectfully submitted,

L. I. LASSITER,
Sanitary Engineer.

FOOD AND DAIRY INSPECTOR'S REPORT

For the Year 1936

DR. A. H. ELLIOT, County Health Officer,
Wilmington, N. C.

Dear Sir:

I wish to submit the following report for the year 1936:

	Passed	Condemned	
Cattle.....	1,075	16	
Calves.....	830	7	
Goats.....	6	0	
Hogs.....	1,421	21	
Meat products.....			8,750 lbs.
T. B. tests.....	1,263	2	
Total.....	4,595	46	

	Number Inspections
Bakeries.....	74
Candy Factories.....	56
Commission Houses.....	325
Fish and Oyster Stalls.....	490
Groceries.....	780
Hotels.....	140
Ice Cream Factories.....	35
Meat Markets.....	1,015
Milk Stations.....	34
Restaurants.....	1,155
Soda Fountains.....	790
Dairies.....	167
Herds.....	167
Dogs.....	424
Bottling Plants.....	72
Slaughter Houses.....	124
Total.....	5,848
Miles Driven.....	8,700

Respectfully submitted,

R. P. HUFFMAN,
Food and Dairy Inspector.

ASSISTANT FOOD AND DAIRY INSPECTOR'S REPORT

For the Year 1936

DR. A. H. ELLIOT, County Health Officer,
Wilmington, N. C.

Dear Sir:

I respectfully submit the following report for the year 1936:

Number Samples, Average Bacterial Count, Butter Fat, and Total Solids for 1936, of All Dairies Producing Milk Sold in New Hanover County

NAME	Grade	Number Samples	Average Bacterial Count	Number Samples	Butter Fat	Number Samples	Total Solids
Blake, H. C.....	A	24	6,500	23	4.04	23	12.81
Botevsky.....	A	25	10,000	23	3.84	23	12.61
Clemmons.....	A	22	3,300	22	4.07	22	12.88
Drevyn.....	A	21	5,500	21	4.13	21	12.99
Dixon.....	A	22	11,000	20	4.03	20	12.83
Garrett.....	A	24	4,500	24	4.32	24	13.24
Harrell.....	A	24	4,200	23	4.27	23	13.81
Horne, C.....	A	23	17,000	23	4.15	23	13.00
Horne, H. L.....	A	26	6,000	25	3.97	25	12.80
Leeuwenburg Dairy	A*	24	3,000	22	3.63	22	12.40
McEachern.....	A*	24	4,600	24	3.64	24	12.41
McEachern.....	A	24	5,500	24	3.80	24	12.57
Meade.....	A	22	8,500	22	4.50	22	12.78
Smith.....	A	18	7,600	17	4.53	17	13.44
Swart.....	A*	24	1,300	23	4.29	23	13.14
Swart.....	A	24	3,200	21	4.20	21	13.04
Taylor.....	A	17	5,000	16	4.17	16	13.08
Vanderwal.....	A	22	5,000	20	4.03	20	12.84
White's.....	A*	25	4,600	25	3.95	25	12.75
OUT OF BUSINESS							
Blake, A. M.....	A	5	11,000	5	3.70	5	12.46
Hollis.....	A	4	9,000	4	4.30	4	13.16
Johnson.....	A	5	13,100	5	4.20	5	13.04

Number of Samples and Bacterial Averages of Milk to Pastuerizing Plant

NAME	Grade	Number Samples	Average Bacterial Count
Hermitage.....	A	48	5,300
Invershiel.....	A	48	10,000
Kromalay.....	B	48	15,000
Leeuwenburg, John.....	A	47	18,000
Plevier.....	A	48	16,000
Sanderson.....	B	24	20,000
St. Helena Colony.....	B	74	26,000
Wood.....	A	47	4,700
OUT OF BUSINESS			
Batts.....	B	24	7,000
Cox.....	A	12	12,500
Quinlivan.....	A	48	12,000

Laboratory Report

Bacterial Analyses.....	930
Butter Fat Analyses.....	434
Total Solids Computed.....	432
Inspections.....	477
Conferences.....	338
Miles Driven.....	10,851

*Pasteurized.

Bacterial Count of All Milk Sold in New Hanover County

Sold Direct to Consumer		Pasteurized Before Going to Consumer	
January.....	5,400	January.....	10,000
February.....	4,100	February.....	8,000
March.....	6,200	March.....	9,000
April.....	3,500	April.....	13,000
May.....	10,000	May.....	16,000
June.....	5,600	June.....	27,000
July.....	15,000	July.....	16,000
August.....	6,200	August.....	17,000
September.....	7,600	September.....	16,000
October.....	5,500	October.....	13,000
November.....	3,000	November.....	8,000
December.....	2,800	December.....	8,000

Butter Fat and Total Solids Averages, by Months, of All Milk Sold in New Hanover County

MONTHS	Butter Fat Average	Total Solids Average
January.....	4.16	13.00
February.....	4.06	12.94
March.....	3.99	12.54
April.....	3.94	12.71
May.....	4.17	12.85
June.....	3.99	12.77
July.....	3.98	12.78
August.....	3.91	12.70
September.....	4.03	12.83
October.....	4.29	13.15
November.....	4.26	13.11
December.....	4.22	13.30

Bacterial Count Summary, 1936

(Milk Direct to Consumer)

75.95% of all samples showed a bacterial count of less than 10,000 per cc.
 88.42% of all samples showed a bacterial count of less than 25,000 per cc.
 7.57% of all samples showed a bacterial count between 25,001 and 50,000 per cc.
 1.56% of all samples showed a bacterial count between 50,001 and 100,000 per cc.
 1.56% of all samples showed a bacterial count between 100,001 and 200,000 per cc.
 0.22% of all samples showed a bacterial count between 200,001 and 300,000 per cc.
 0.00% of all samples showed a bacterial count between 300,001 and 500,000 per cc.
 0.22% of all samples showed a bacterial count between 500,001 and 1,000,000 per cc.
 0.45% of all samples showed a bacterial count of over 1,000,000 per cc.

Milk Pastuerized Before Going to Consumer

48.50% of all samples showed a bacterial count of less than 10,000 per cc.
 75.84% of all samples showed a bacterial count of less than 25,000 per cc.
 15.59% of all samples showed a bacterial count between 25,001 and 50,000 per cc.
 2.76% of all samples showed a bacterial count between 50,001 and 100,000 per cc.
 2.98% of all samples showed a bacterial count between 100,001 and 200,000 per cc.
 0.63% of all samples showed a bacterial count between 200,001 and 300,000 per cc.
 1.15% of all samples showed a bacterial count between 300,001 and 500,000 per cc.
 .63% of all samples showed a bacterial count between 500,001 and 1,000,000 per cc.
 .42% of all samples showed a bacterial count of over 1,000,000 per cc.

Respectfully submitted,

J. B. EDWARDS,

Assistant Food and Dairy Inspector.

DIAGNOSTIC LABORATORY REPORT

For the Year 1936

	WHITE		COLORED		Total
	Pos.	Neg.	Pos.	Neg.	
Throat swabs for Vincent's angina.....	8	39	4	3	54
Throat cultures for diphtheria.....	27	225	5	44	301
Sputa for tuberculosis.....	1	11	3	4	19
Smears for gonorrhea.....	26	67	89	173	355
Feces for parasites.....	9	152	4	11	176
Spinal fluid for meningococcus.....	2	1	12	6	21
White blood count.....	1	1	-----	2	4
Malaria.....	6	30	2	40	78
Differential blood count.....					
	WHITE		COLORED		1,485
Urinalyses.....	453		1,032		

Respectfully submitted,

SARA C. CANTWELL,
Laboratory Technician.

WILMINGTON PUBLIC HEALTH NURSING ASSOCIATION

Report for the Year 1936

	This Year	Last Year	Co.	1	2	3	4	High School	6	7	Maternity and Infancy
Tuberculosis											
New patients.....	31	41	4	4	1	3	1	.....	11	7	.....
Home visits.....	480	294	50	68	28	57	31	.....	89	157	.....
Morbidity											
New patients.....	847	.....	85	306	156	87	58	.....	60	95	.....
Home visits.....	4,253	3,141	399	816	732	828	628	.....	409	441	.....
Maternity											
New patients, A. P.	570	.....	124	51	45	18	18	.....	33	24	.....
Home visits.....	2,159	2,141	362	198	192	96	108	.....	124	93	986
New patients, P. P.	42	.....	2	7	3	19	1	.....	1	3	42
Home visits.....	916	858	149	156	142	88	51	.....	39	77	214
Infant Welfare											
New patients.....	651	.....	155	85	89	25	32	.....	52	33	178
Home visits.....	5,923	5,941	1,047	644	689	396	493	.....	223	176	2,255
Pre-School											
New patients.....	609	.....	58	194	90	96	34	.....	56	81	.....
Home visits.....	1,837	1,601	210	325	254	487	303	.....	128	130	.....
School Hygeine											
Children Exam. by Nurse	5,245	3,953	1,289	304	499	369	227	979	761	817	.....
Referred to Dr.	4,840	3,012	1,110	329	438	358	248	911	758	688	.....
Home visits.....	4,065	3,146	686	444	495	579	409	.....	916	536	.....
Corrections Made											
Tonsils and Adenoids....	218	195	6	16	16	28	10	51	46	45	.....
Teeth.....	528	1,058	.....	.....	.....	.....	.....	.....	.....	.....	.....
Eyes.....	67	58	.....	20	2	4	6	31	3	1	.....
Nurses visits to Schools..	978	893	173	70	71	87	65	177	150	185	.....
Dressings done in Schools	9,802	6,940	83	651	252	453	310	4,091	1,568	2,394	.....
Communicable disease visits.....	182	237	43	17	12	24	17	.....	32	37	.....
Nurses visits to Clinic....	182	480	.....	.....	.....	.....	.....	.....	.....	.....	.....
Immunizations											
Smallpox.....	685	1,280	.....	.....	.....	.....	.....	.....	.....	.....	.....
Typhoid.....	796	2,381	.....	.....	.....	.....	.....	.....	.....	.....	.....
Diphtheria Toxoid.....	210	160	.....	.....	.....	.....	.....	.....	.....	.....	.....

COLUMBIA MUNDS, R. N.,
Supervising Nurse.

JAMES WALKER MEMORIAL HOSPITAL REPORT

For the Year 1936

DR. A. H. ELLIOT, County Health Officer,
Wilmington, N. C.

Dear Sir:

We hand you herewith a report of the charity patients admitted and discharged for the year 1936:

Number remaining in hospital January 1, 1936.....	64	
Number admitted during 1936.....	2,771	
Total.....		2,835
Number discharged during 1936.....	2,773	
Number remaining in hospital January 1, 1937.....	62	
Total.....		2,835
Births (included in admissions).....	413 (Inc. 18 S. B.)	
Deaths (included in discharges).....	194 (Inc. 18 S. B.)	
Of these deaths there were:		
Institutional.....	104	
Within 48 hours.....	90 (Inc. 18 S. B.)	
Charity hospital days for the year.....		25,946
Included in these days are 2,672 part pay days.		

Very truly yours,

JAMES WALKER MEMORIAL HOSPITAL,
NEWTON FISHER, Superintendent.
By JAMES S. HALL, M. D.

SANITARY INSPECTORS' REPORT

For the Year 1936

INSPECTIONS	City	County	Total
White.....	15,429	4,195	19,624
Colored.....	15,368	2,475	17,843
Total.....	30,797	6,670	37,467
Rural water supplies improved.....		11	11
Urban water supplies improved.....	9		9
Rural privies built or improved.....	7	302	309
Urban privies built or improved.....	71	28	99
New sewers laid.....	96	50	146
New sewer connections.....	112	49	161
Houses condemned.....	76		76
Water samples taken.....	599	610	1,209
Quarantines.....	169	80	249
Court convictions.....	1	2	3
Miles driven, county inspector.....			13,756

PLUMBING INSPECTOR'S REPORT

For the Year 1936

DR. A. H. ELLIOT, County Health Officer,
Wilmington, N. C.

Dear Sir:

I hereby submit a report of the inspection of plumbing made by me in New Hanover County, from January 1, 1936 through December 31, 1936. Number of fixtures inspected are as follows:

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Toilets.....	13	17	37	47	66	26	35	38	51	24	51	54
Lavatories.....	13	11	33	38	65	30	33	36	62	19	47	45
Bath Tubs.....	7	5	14	16	20	9	8	21	21	21	41	20
Sinks.....	9	6	24	18	35	16	21	21	28	18	5	8
Showers.....	4		3	1	2	2		4		1		5
Sewers.....	3	4		2	2	1	6	1	4	1	1	22
Sewer Stops.....								1				
Urinals.....			1	1				1				
Laundry Trays.....								1				
Slop Hoppers.....	1	3	2	1	2	4	5	1	5			
Relays.....												
Floor Drains.....		1	2						2	1		
Dental Chairs.....												
Septic Tanks.....												
Fountains.....												

Total Number of Fixtures Inspected..... 1,397

Trusting that this meets with your approval, I remain,

Yours truly,

R. M. KERMON,
Plumbing Inspector of New Hanover County.

INCINERATOR REPORT

For the Year 1936

Number of loads of trash destroyed.....	24,478
Number of loads of garbage destroyed.....	977
Number of animals destroyed.....	39
Number of bushels of flower bulbs destroyed.....	675
Average cost per ton refuse destroyed.....	.61 cents

DRAINAGE SUPERVISOR'S REPORT

For the Year 1936

DR. A. H. ELLIOT, County Health Officer,
Wilmington, N. C.

Dear Sir:

I wish to submit the following report of work done for the year beginning April 1 and ending October 31, 1936:

Number times oiled regular route.....	13
Number times oiled at Eagle Island.....	13
Number times oiled at County Home.....	13
Number times oiled at Red Cross Sanatorium.....	13
Number times oiled at Winter Park, Seagate, Wrightsville.....	13
Number times oiled at Boy Scout Camp.....	9
Number times oiled at Greenfield Lake.....	13
Number times oiled at Carolina, Wilmington, Kure's Beaches.....	11
Number times oiled at Dow Chemical Company.....	11
Number barrels and tanks oiled at Eagle Island 13 times.....	144
Number places of discarded automobiles oiled 13 times.....	6
Number fire barrels nitrocaked.....	109
Number tanks nitrocaked at Cement Products Company.....	40
Number fire barrels oiled 13 times.....	81
Number sand traps oiled 13 times.....	1,221
Number gallons No. 4 mosquito oil used.....	7,291
Number ponds oiled in county 13 times.....	39
Number inspections made in county.....	747
New ditches dug by W. P. A. labor..... Miles	21
Number ponds drained by W. P. A. labor.....	63
Ponds drained by W. P. A. labor..... Acres	360.60
Swamp drained by W. P. A. labor..... Acres	75.50
Clearing by W. P. A. labor..... Acres	48.36
Number families visited in county.....	460
Number people visited in county.....	2,103
Number people with symptoms of malaria.....	4
Number people with no symptoms of malaria.....	2,099
Number houses screened.....	363
Number houses not screened.....	97

Equipment and tools on hand October 31, 1936: 1 Chevrolet truck, 1 trailer, 1 150-gallon oil drum, 1 110-gallon oil drum, 38 50-gallon oil drums, 1,300 gallons refuse oil, 1 crosscut saw, 1 boat, 6 buckets, 4 fertilizer rakes, 3 mud scoops, 1 club axe, 11 pea rakes, 5 long handle rakes, 3 grass blades, 14 shovels, 16 brush hooks, 3 weed hoes, 2 hay knives, 4 mattocks, 1 crowbar, 1 grab hook, 2 picks, 1 grindstone, 1 funnel, 5 knapsack sprays.

Respectfully submitted,

G. T. MORGAN,
Drainage Supervisor.

TABLE No. 1

MORTALITY STATISTICS FOR CITY OF WILMINGTON AND NEW HANOVER COUNTY FOR THE YEAR 1936

CAUSES OF DEATH	City and County	Last Year	CITY					COUNTY					DEATHS BY AGE								
			White		Black		Total	White		Black		Total	Under 1	1-2	2-5	5-15	15-25	25-45	45-65	65-100	
			M	F	M	F		M	F	M	F										Total
Total, All Causes.....	709	699	160	137	151	140	588	31	35	28	27	121	85	16	18	23	57	145	211	154	
1. Typhoid Fever.....	1	2 ¹					1														
2. Malaria Fever.....		1																1			
3. Smallpox.....																					
4. Measles.....																					
5. Scarlet Fever.....																					
6. Whooping Cough.....	2 ¹	3 ²	1 ¹		1		2 ¹									1 ¹					
7. Diphtheria.....	2 ¹		1 ¹	1			2 ¹							1							
8. Influenza.....	7	11 ²	3	2	1	1	7						2	1	1 ¹						
9. Dysentery.....																		1	2	1	
10. Other Epidemic Diseases.....	13 ³	2 ²	1 ¹	2 ²	7	3	13 ³						1				3 ¹	4 ¹	3	1	
11. Tetanus.....	1				1		1										1				
12. Pellagra.....	1	3 ¹		1			1														
13. Pulmonary Tuberculosis.....	38 ¹	29	2	1	3	11	17	3	2	5	11 ¹	21 ¹					8 ¹	23	7		
14. Other Forms Tuberculosis.....	2	1 ¹				1	1			1		1									
15. Syphilis.....	6	5	2		1		3		1	1	1	3					2				
16. Cancer and Other Malignant Tumors.....	38 ⁴	43	9 ¹	9 ¹	3 ¹	8 ¹	29 ⁴	4		1	4	9		1	1 ¹			3	2	1	
17. Cerebral Hemorrhage.....	82 ¹	72 ³	12	12	22	21 ¹	67 ¹	4	4	5	2	15			1		1	4	24	7	
18. Organic Heart Disease.....	137 ¹¹	140 ⁸	29 ⁶	29 ²	24	28 ¹	110 ⁹	6 ²	11	6	4	27 ²	1				2	12 ¹	39	29	
19. Broncho Pneumonia.....	37 ⁶	36 ⁸	9 ¹	8 ²	4	9	30 ³	4 ²	2 ¹		1	7 ³	8 ³	4 ¹	2	2 ¹	4 ¹	20 ¹	55 ⁷	54 ¹	
20. Other Forms Pneumonia.....	40 ⁷	40 ⁸	15 ²	10 ²	9	2 ¹	36 ⁵	3 ²	1			4 ²	3 ²	2 ²	4 ¹	2	3	11 ¹	9 ¹	6	
21. Other Respiratory Diseases.....																					
22. Diseases of Stomach.....	2	2				2	2											2			
23. Diarrheal Diseases.....	21 ¹⁴	23 ¹⁶	5 ⁴	4 ²	5 ¹		14 ⁷	2 ²	5 ⁵			7 ⁷	10 ⁷	5 ⁵	4 ²	1				1	
24. Appendicitis and Typhilitis.....	7 ²	4 ²	2 ¹	2 ¹	1	2	7 ²										1	4	2 ²		
25. Hernia, Intestinal Obstruction.....	11 ³	8 ⁴	4 ²	3 ¹	1	3	11 ³						1 ¹				3	2	4 ¹	1 ¹	
26. Cirrhosis of Liver.....	3	2	1	1	1		3												3		
27. Nephritis.....	57 ¹	58 ⁵	10 ¹	12	13	16	51 ¹		1	3	2	6					1	15 ¹	18	22	
28. Diseases of Women (not cancer).....		1 ¹																			
29. Puerperal Septicemia.....	5 ²	2 ¹		2 ²		3	5 ²										2	3 ²			
30. Other Puerperal Diseases.....	9 ⁶	8 ³		6 ⁴		3 ²	9 ⁶									1	3 ³	5 ³			
31. Congenital Debility and Malformation.....	2	10 ³		1	1		2						2								
32. Old Age.....	2	6		1		1	2														
33. Suicide.....	6	5 ¹				1	5					1								2	
34. Automobile Accidents.....	9 ⁶		4				1		1												
35. Other Accidents.....	37 ⁸	48 ¹¹	8	4 ¹	12 ³	2	26 ⁴	5 ²	1	5 ²		11 ⁴	2				5	5 ⁴	9 ¹	11 ²	
36. Homicide.....	14 ⁴	11 ²	2 ¹	1	9 ²	1 ¹	13 ⁴			1		1					2 ¹	6 ²	6 ¹		
37. Diabetes.....	6 ³		2 ²	3 ¹	1		6 ³										1	2 ²	1 ¹		
38. All Other Causes.....	111 ³⁰	123 ¹⁶	35 ¹⁴	21 ⁵	27 ⁵	20 ²	103 ²⁶		6 ⁴		2	8 ⁴	55 ¹⁶	2 ¹	2 ¹	5 ³	8 ¹	13 ⁴	18 ³	8 ¹	
Total, Excluding Non-Residents.....	595	598	120	111	137	129	497	21	25	26	26	98	56	7	11	15	42	127	188	149	
Death Rates per 1,000.....	13.3	13.5	12.4		20.7		15.7	5.1		12.7		7.5									

Non-residents to be deducted in small numerals.

TABLE No. 2
COMPARATIVE VITAL STATISTICS, CITY OF WILMINGTON

	1936	1935	1934	1933	1932	1931	1930	1929	1928	1927	1926	1925	1924	1923	1922	1921	1920	1919	1918	1917	1916
Estimated Population.....	31,555	31,665	31,775	31,885	31,995	32,160	32,270	32,380	32,490	32,600	32,710	32,820	32,930	33,040	33,150	33,260	33,370	32,360	31,844	31,082	30,320
Total Live Births.....	900 ⁹⁵	844 ⁷²	798 ⁴²	780	873	799	890	829	872	922	952	1,010	981	997	1,059	1,104	1,012	875	705	705	755
Total Stillbirths.....	33	52	54	41	51	62	55	56	59	66	58	64	64	78	90	91	78	86	72	95	80
Deaths—All Ages.....	497	506	505	476	450	476	521	518	532	475	458	468	478	467	525	547	563	533	713	527	443
Deaths—Under One Year.....	56	62	60	36	71	78	63	60	79	105	83	96	113	86	97	113	122	111	100	130	108
Infant Mortality Rate.....	69.4	80.3	79.3	44.8	81.3	97.6	70.7	73.5	90.5	113.8	87.1	95.0	115.1	86.2	91.5	102.3	120.5	126.8	141.4	184.5	143.0
DEATHS FROM PRINCIPAL DISEASES:																					
Typhoid Fever.....	1	2 ¹	1	4 ¹	3 ¹	1 ¹	2 ¹	2 ¹	2 ²	4 ²	2	1	2	4	3	1	1	15	8	2	4
Smallpox.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Measles.....	0	0	0	3	0	0	0	0	2	1	0	0	5	0	0	5	0	0	0	1	0
Scarlet Fever.....	0	0	1 ¹	0	0	2 ²	0	1	0	0	0	2	0	1	1	1	1	0	0	0	0
Whooping Cough.....	2 ¹	3 ²	9 ²	0	3 ¹	7 ²	1	0	0	7	3	3	0	9	1	0	6	1	2	3	0
Diphtheria.....	2 ¹	0	2 ²	4 ³	1	3 ¹	3 ²	4	6 ³	2 ¹	5 ²	5 ⁵	1	1	2	1	2	1	0	2	0
Influenza.....	7	10 ²	1	3	2	6 ¹	8 ⁴	14 ¹	41 ⁷	15 ³	14 ⁵	9 ¹	3 ¹	22 ³	15	1	60	32	31	4	0
Tuberculosis, All Forms.....	18	22 ¹	19	26 ¹	17	31	28 ¹	14	17 ¹	22 ³	25 ²	17 ¹	35 ²	42 ²	35	39	41	48	49	52	43
Cancer.....	29 ⁴	40	37 ⁴	33	28 ¹	25 ⁴	28 ⁴	22 ⁵	25 ³	30 ³	28 ³	32 ⁵	28 ⁵	29 ²	35	24	21	22	19	17	17
Organic Heart Disease.....	110 ⁹	113 ⁷	101 ⁶	91 ⁶	79 ⁷	74 ⁷	100 ⁵	112 ¹¹	108 ⁵	82 ¹⁰	60 ³	75 ⁵	70 ⁶	52 ²	55	48	53	36	72	68	29
Pneumonia, All Forms.....	66 ⁸	64 ¹¹	15 ³	42 ⁹	52 ⁵	62 ⁴	61 ⁹	58 ⁹	77 ¹⁰	58 ⁷	69 ⁸	60 ¹³	59 ⁶	46 ⁴	68	50	44	56	225	58	46
Pneumonia, Lobar and Undefined.....	36 ⁵	38 ⁷	10 ³	30 ⁶	36 ⁵	42 ⁴	39 ⁸	40 ⁸	46 ⁵	32 ²	40 ¹	41 ⁶	42 ⁴	36 ¹	47	33	25	37	78	34	34
Pneumonia, Broncho.....	30 ³	26 ⁴	5	12 ³	16	20	22 ¹	18 ¹	31 ⁵	26 ⁵	29 ⁷	19 ⁷	17 ²	10 ¹	21	17	19	19	147	24	12
Diarrhea and Enteritis (Under Two Yrs.).....	10 ⁷	15 ¹²	16 ⁵	5 ¹	18 ⁸	10 ²	6 ¹	9 ²	15 ⁸	14 ⁶	10 ¹	14 ¹	39 ⁵	27 ⁴	23	47	22	39	55	52	37
Nephritis.....	51 ¹	50 ³	70 ⁷	72 ⁶	69 ¹	65 ⁴	90 ⁹	92 ⁴	62 ¹⁰	51	58 ⁴	52 ⁴	50 ⁹	65 ⁵	68	79	51	57	51	60	62
Puerperal State.....	14 ⁸	10 ⁴	7 ²	10 ⁴	5 ¹	13 ¹	14 ⁵	12 ³	9 ⁵	10 ²	10 ²	9 ¹	12 ¹	9 ³	14	10	6	10	3	10	9
COMMUNICABLE DISEASES REPORTED:																					
Typhoid Fever.....	5 ²	8 ¹	7 ¹	9	16 ¹	5	10 ¹	7 ¹	8	7	7	3	16	17	18	39	30	68	50	39	27
Smallpox.....	0	0	1	0	0	0	0	21	13	1	6	66	28	5	1	6	23	1	0	7	0
Measles.....	1	17 ¹	101	1,700	6	31	4	3	784	1,304	25	4	709	77	9	1,469	12	17	124	445	75
Scarlet Fever.....	23 ¹	10	16 ²	32	39	36	44	37	17	38	37	40	26	41	33	49	57	43	2	11	15
Whooping Cough.....	17	150	297	29	341	362	357	28	48	341	270	72	66	460	120	19	192	178	221	107	13
Diphtheria.....	28 ¹³	5	29 ⁹	23	29 ¹	53 ⁵	69 ⁷	93 ⁹	43	38	34	20	23	37	52	38	62	44	15	30	20

Non-residents to be deducted in small numerals.

TABLE No. 3
CRUDE DEATH RATE PER THOUSAND, CITY OF WILMINGTON
(Non-Residents Excluded)

	White	Black	Total
1911.....	21.0	37.0	28.5
1912.....	15.2	29.6	22.0
1913.....	14.1	27.2	20.2
1914.....	13.3	27.9	20.2
1915.....	12.5	23.9	17.9
1916.....	10.7	18.7	14.5
1917.....	12.4	21.7	16.8
1918.....	20.4	24.1	22.2
1919.....	13.0	18.9	16.2
1920.....	12.5	23.3	16.9
1921.....	13.6	20.7	16.4
1922.....	11.3	22.6	15.8
1923.....	9.1	21.6	13.8
1924.....	9.2	22.4	14.5
1925.....	9.9	20.6	14.3
1926.....	10.3	19.4	14.0
1927.....	9.2	22.4	14.6
1928.....	13.2	21.0	16.4
1929.....	11.8	22.2	16.0
1930.....	11.8	22.8	16.2
1931.....	10.0	21.8	14.8
1932.....	10.5	19.2	14.1
1933.....	11.1	20.4	14.3
1934.....	12.3	21.1	15.1
1935.....	12.1	21.5	16.0
1936.....	12.4	20.7	15.7

TABLE No. 4
BIRTHS
CITY AND COUNTY
For the Year 1936

	White		Black		Total		Grand Total M.&F.
	M	F	M	F	W	B	W.&B.
CITY							
Births (exclusive of stillbirths).....	298	260	188	154	558	342	900
Stillbirths.....	8	8	15	15	16	30	46
COUNTY							
Births (exclusive of stillbirths).....	11	15	3	4	26	7	33
Stillbirths.....		1			1		1

	White	Black	Total
Birth Rate, City alone.....	30.1	26.5	28.5
Birth Rate, County outside City.....	2.9	1.7	2.5
Birth Rate, City and County.....	21.2	20.5	20.9

Total Deaths in City Under One Year of Age to 1,000 Live Births
(Stillbirths and Non-Residents Excluded)

	Deaths Under 1 Year	Total Live Births	Ratio
This Year.....	57	900	63.3
Last Year.....	62	844	80.3

TABLE No. 5
INFANT MORTALITY, CITY OF WILMINGTON, 1936

	Total 1936	Total 1935	WHITE			COLORED			DEATHS BY AGE													
			Male	Female	Total	Male	Female	Total	W less than one hour	C less than one hour	One hour to one day		One day to one week		One week to one month		One month to two months		Two months to six months		Six months to twelve months	
											W	C	W	C	W	C	W	C	W	C	W	C
All Causes.....	74	81	5	18	43	19	12	31	6	6	12	4	9	4	3	2	2	4	4	7	7	4
1. Measles.....																						
2. Scarlet Fever.....																						
3. Whooping Cough.....		2 ¹																				
4. Diphtheria.....																						
5. Influenza.....	2	3		1	1	1		1											1	1		
6. Dysentery.....																						
7. Erysipelas.....																						
8. Meningococcus Meningitis.....	1						1	1														1
9. Tetanus.....																						
10. Tuberculosis, Respiratory.....																						
11. Tuberculosis, Meninges.....																						
12. Tuberculosis, Other Forms.....																						
13. Syphilis.....		3																				
14. Convulsions.....																						
15. Bronchitis.....	1			1	1														1			
16. Broncho Pneumonia.....	5	5				3	2	5												3		2
17. Pneumonia.....	2 ¹	7 ²	2 ¹		2 ¹														1		1 ¹	
18. Diseases of Stomach.....																						
19. Diarrhea and Enteritis.....	7 ³	12 ¹⁰	2 ²	3 ¹	5 ³	2		2									1	1 ¹	1	4 ²		
20. Congenital Malformation.....	3	6 ¹		1	1	2		2	1					1								
21. Congenital Debility.....		3 ¹																				
22. Prematurity.....	32 ¹¹	21 ¹	11 ⁶	8 ³	19 ⁹	7 ¹	6 ¹	13 ²	4 ¹	4 ¹	11 ⁵	3 ¹	2 ¹	2	2 ²	2		2				
23. Injury at Birth.....	8 ²	6 ¹	5 ¹	2 ¹	7 ²		1	1	1	1			4 ¹		1 ¹							
24. Other Diseases of Infancy.....																						
25. External Causes.....	2	2	1	1	2												1				1	
26. Unknown or Ill Defined.....	1				1												1					
27. All Other Causes.....	10 ¹	11 ¹	3 ¹	1	4 ¹	4	2	6		1		1	3	3	1			1		1	1 ¹	1
Total, Non-Residents Excluded.....	56	62	14	13	27	18	11	29	5	5	7	3	7	4		2	2	4	3	7	3	4
Total Live Births.....	900 ⁹⁵	844 ⁷²	298	260	558	188	154	342														
Mortality Rates per 1,000.....	69.4	80.3																				

Non-residents to be deducted in small numerals.

TABLE No. 6
CARE OF MOTHERS AT TIME OF BIRTH OF THEIR CHILDREN, 1936

	CITY										COUNTY											
	WHITE				COLORED				Total City Births	Total %	WHITE				COLORED				Total County Births	Total %	Total City and County Births	Total City and County %
	Live Births	Stillbirths	Total	%	Live Births	Stillbirths	Total	%			Live Births	Stillbirths	Total	%	Live Births	Stillbirths	Total	%				
Delivered by physicians in hospitals.....	533	16	549	95.6	289	25	314	84.4	863	91.2											863	88.0
Delivered by physicians in homes.....	22		22	3.8	10	2	12	3.2	34	3.5	24	1	25	92.6	3		3	42.8	28	82.3	62	6.3
Total delivered by physicians.....	555	16	571	99.4	299	27	326	87.6	897	94.8	24	1	25	92.6	3		3	42.8	28	82.3	925	94.3
Delivered by midwives.....	3		3	.52	43	3	46	12.4	49	5.2	2		2	7.4	4		4	57.1	6	17.6	55	5.6
Unattended.....																						
Total Births.....	558	16	574		342	30	372		946		26	1	27		7		7		34		980	

TABLE No. 7

COMMUNICABLE DISEASES REPORTED DURING YEAR 1936

	CITY				COUNTY				TOTAL		Grand Total
	White		Black		White		Black		City	County	
	M	F	M	F	M	F	M	F			
Diphtheria.....	12 ⁷	12 ⁶	2	2	8	12	2	12	28 ¹³	34	62 ¹³
Chickenpox.....	32	36	2	10	35	39	1	1	80	76	156
Scarlet Fever.....	6	16 ¹		1	3	5			23 ¹	8	31 ¹
Typhoid Fever.....	2 ¹	1 ¹	2		1		1	1	5 ²	3	8 ²
Typhus Fever.....	3 ¹					2 ¹			3 ¹	2 ¹	5 ²
Malaria.....			1	1					2		2
Meningitis.....	1 ¹	2 ²	9	4			1		16 ³	1	17 ³
Infantile Paralysis.....											
Pellagra.....	1	7		4	4	4	1		12	9	21
Pneumonia.....		1							1		1
Ophthalmia.....											
Neonatorum.....							1			1	1
Whooping-Cough.....	7	1	6	3		1			17	1	18
Tuberculosis.....	8	8	10	22	2 ¹	1 ¹	3	5	48	11 ²	59 ²
Influenza.....	1	3	6	12				1	22	1	23
Measles.....	1								1		1
German Measles.....	2	3							5		5
Undulant Fever.....	1	1							2		2
Gonorrhea.....	21	8	73	66	5	1	11	9	168	26	194
Syphilis.....	11	12	99	171	2	4	15	21	293	42	335
Chancroid.....	5		31	10			2	1	46	3	49

Non-residents in small numerals.

TABLE No. 8

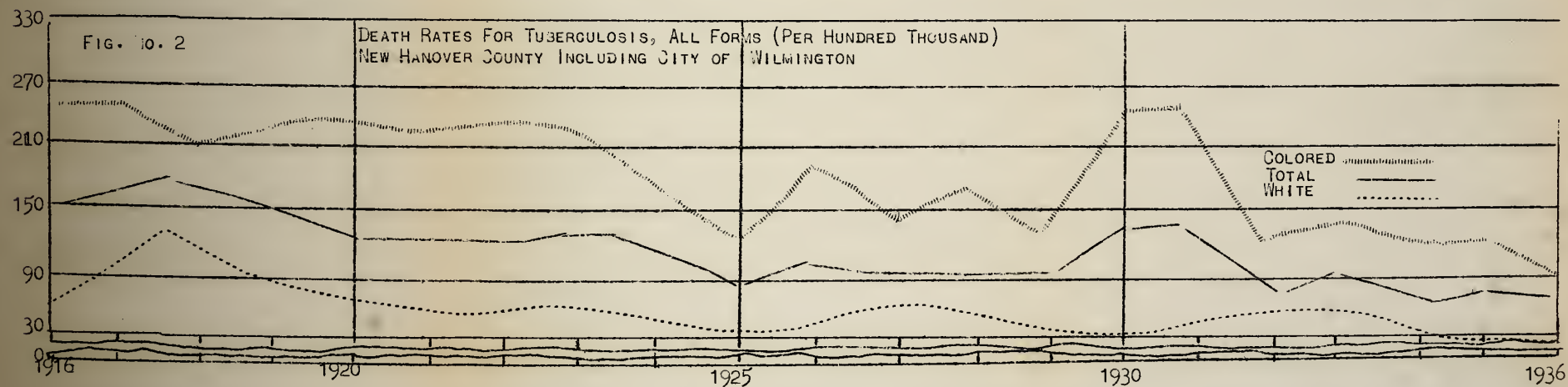
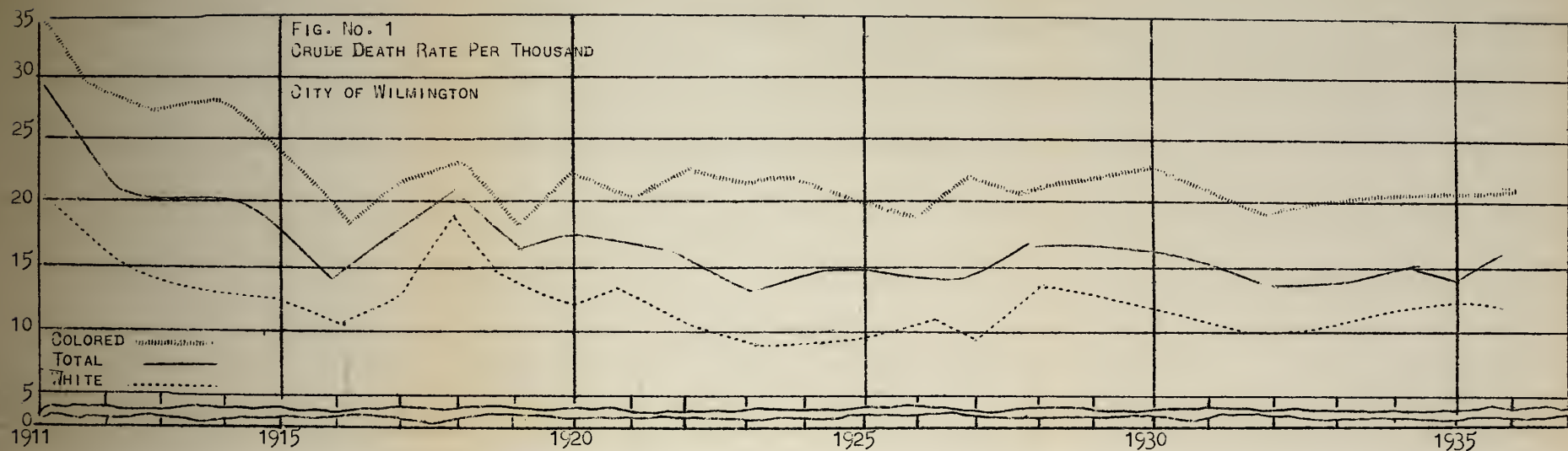
MATERNAL MORTALITY RATES FOR PAST TWENTY-THREE YEARS
In Five and One Year Periods
(Per 1,000 Live Births)
Wilmington and New Hanover County

	LIVE BIRTHS					STILLBIRTHS			Grand Total
	White	Rate	Colored	Rate	Total Live Births	White	Colored	Total Still-Births	
1914-1918.....	2,426	13.6	2,229	12.1	4,655	119	383	502	5,157
1919-1923.....	3,587	11.1	2,455	14.2	6,042	102	279	381	6,423
1924-1928.....	3,342	8.9	2,232	15.6	5,574	93	194	287	5,861
1929-1933.....	2,813	9.5	1,831	21.8	4,644	112	183	295	4,939
TOTAL.....	12,168	10.6	8,747	15.6	20,915	426	1,039	1,465	22,380
Total Rate Over 20 Year Period.....									12.7
1934.....	503 ³⁵	4.2	343 ⁷	11.9	846 ⁴²				
Total Rate 1934.....									7.4
1935.....	527 ⁶³	6.4	365 ⁹	8.4	892 ⁷²	17	36	53	
Total Rate 1935.....									7.3
1936.....	584 ⁸²	3.9	349 ¹³	11.9	933 ⁹⁵	17	30	47	
Total Rate 1936.....									7.2

CAUSES OF MATERNAL DEATHS FOR PAST TWENTY YEARS

	Eclampsia		Septic Infection		Hemorrhage		All Other Causes		Total
	White	Colored	White	Colored	White	Colored	White	Colored	
1914-1918.....	17	13	4	5	3	3	9	6	60
1919-1923.....	17	14	5	6	6	2	12	13	75
1924-1928.....	12	11	2	13	3	3	13	8	65
1929-1933.....	8	14	6	10	2	4	11	12	67
TOTAL.....	54	52	17	34	14	12	45	39	267
1934.....	1 ¹	1	1 ¹	3 ²	1 ¹	1	2	3 ²	13 ⁷
1935.....	3 ¹	1 ¹		3 ¹			2 ¹	1	10 ⁴
1936.....	2 ¹	2 ¹	2 ²	3		1 ¹	4 ³		14 ⁸

Non-residents in small numerals.



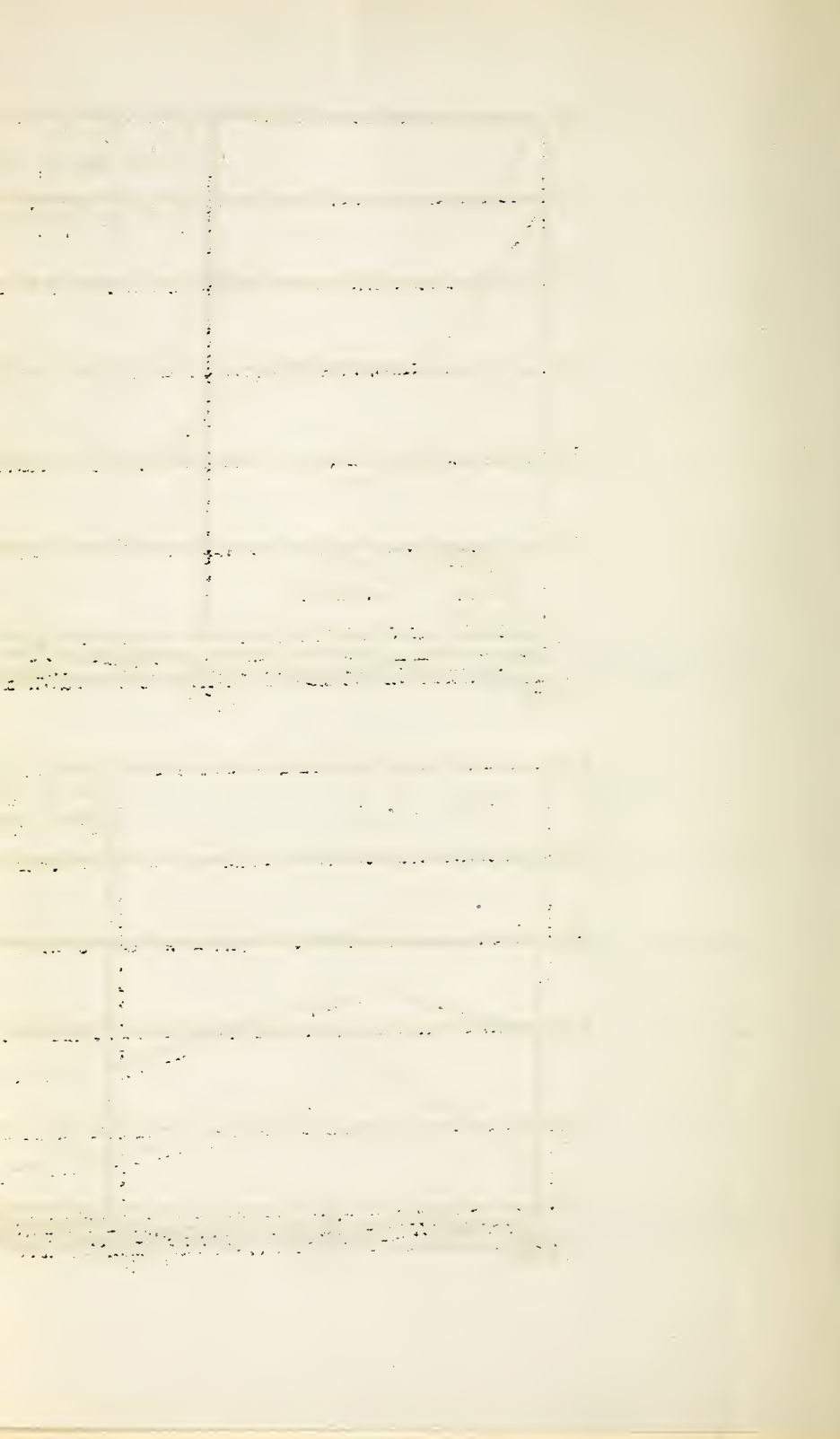


FIG. No. 3

TYPHOID FEVER DEATH RATE, CITY OF WILMINGTON
(PER HUNDRED THOUSAND)

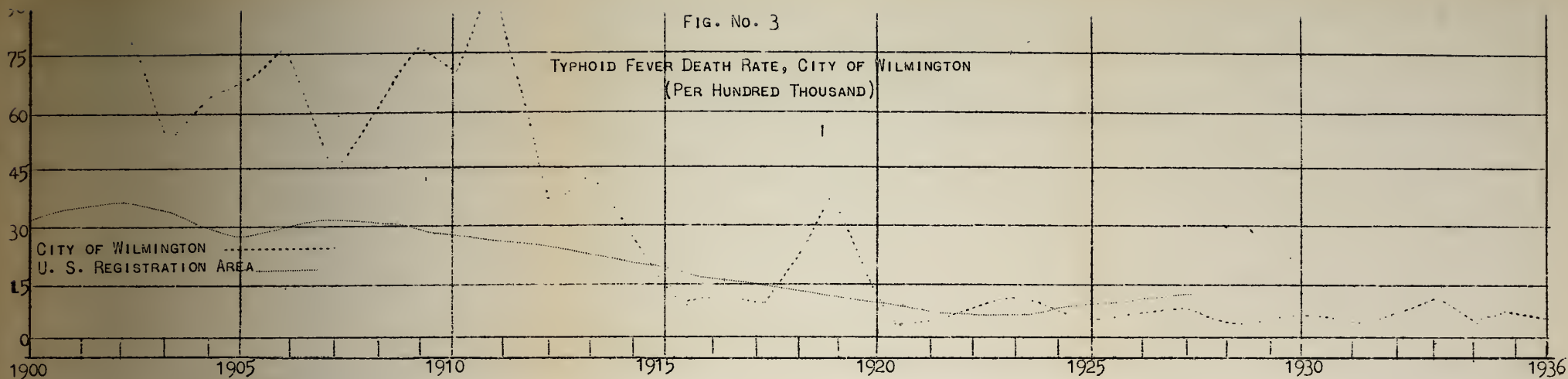


FIG. No. 4

ENTERO COLITIS DEATH RATE, CITY OF WILMINGTON
(PER HUNDRED THOUSAND)

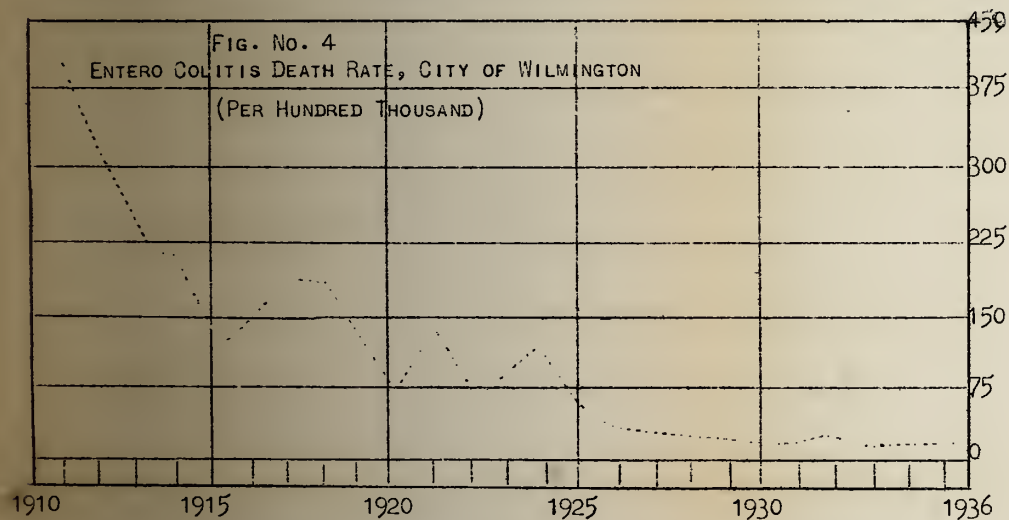
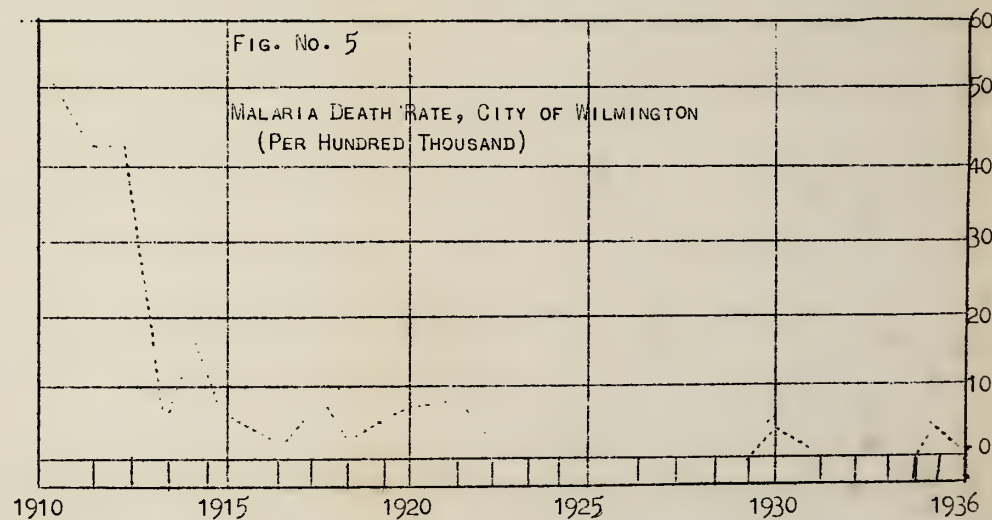
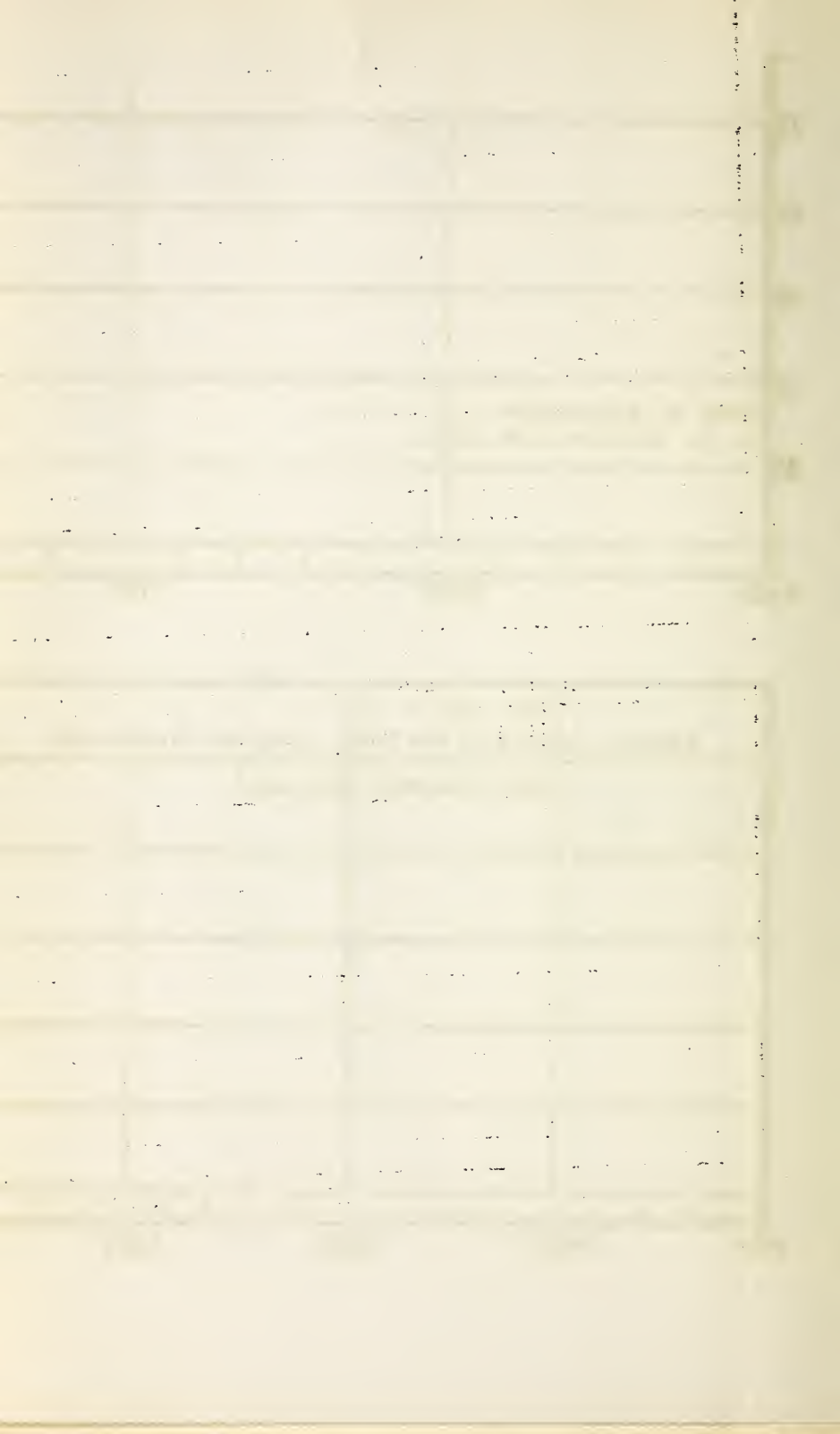
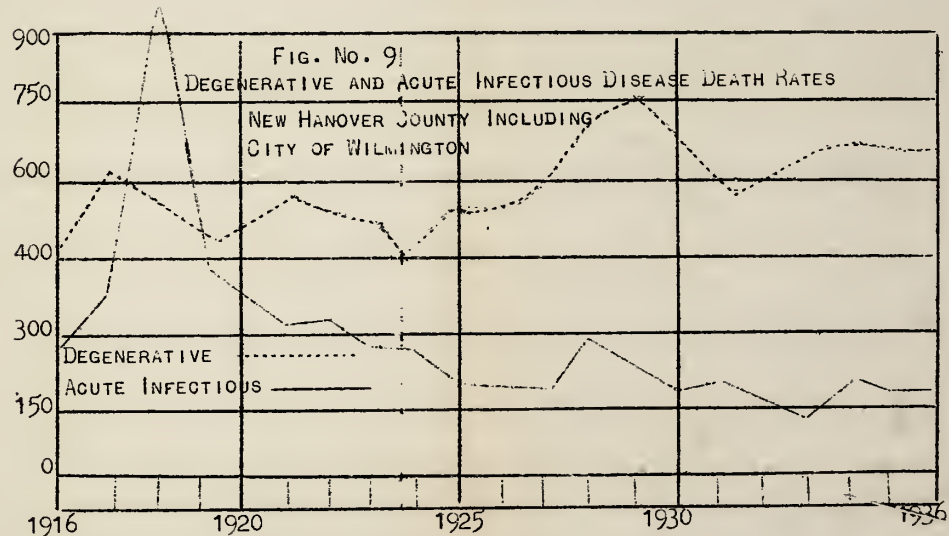
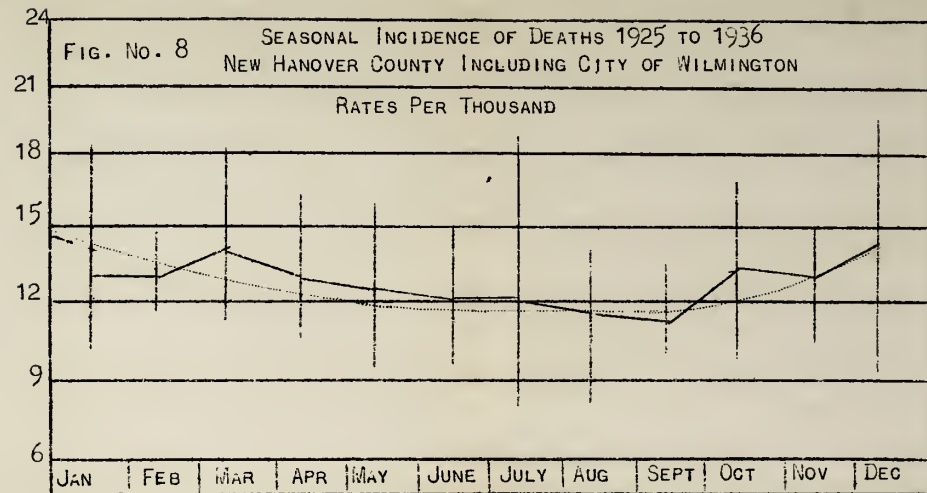
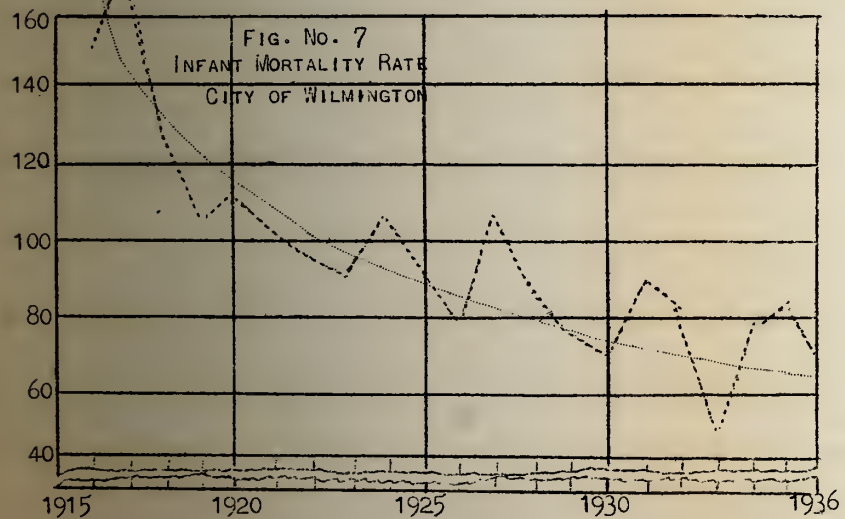
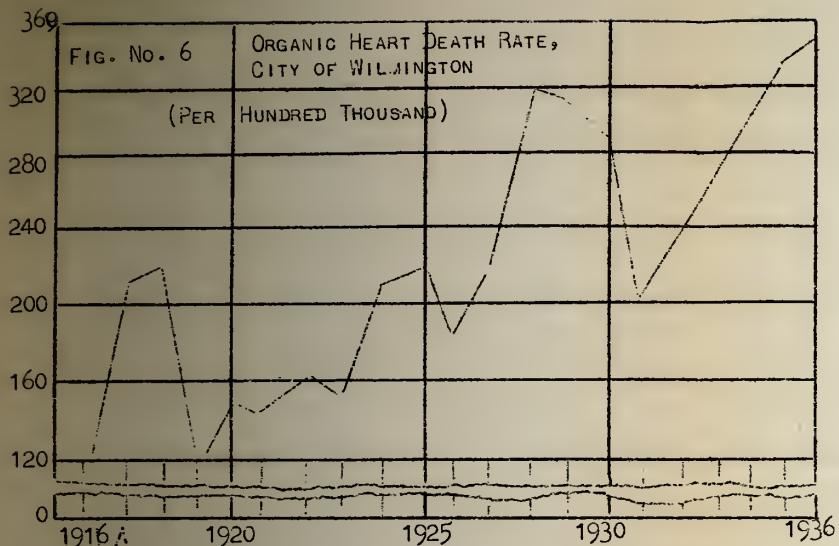


FIG. No. 5

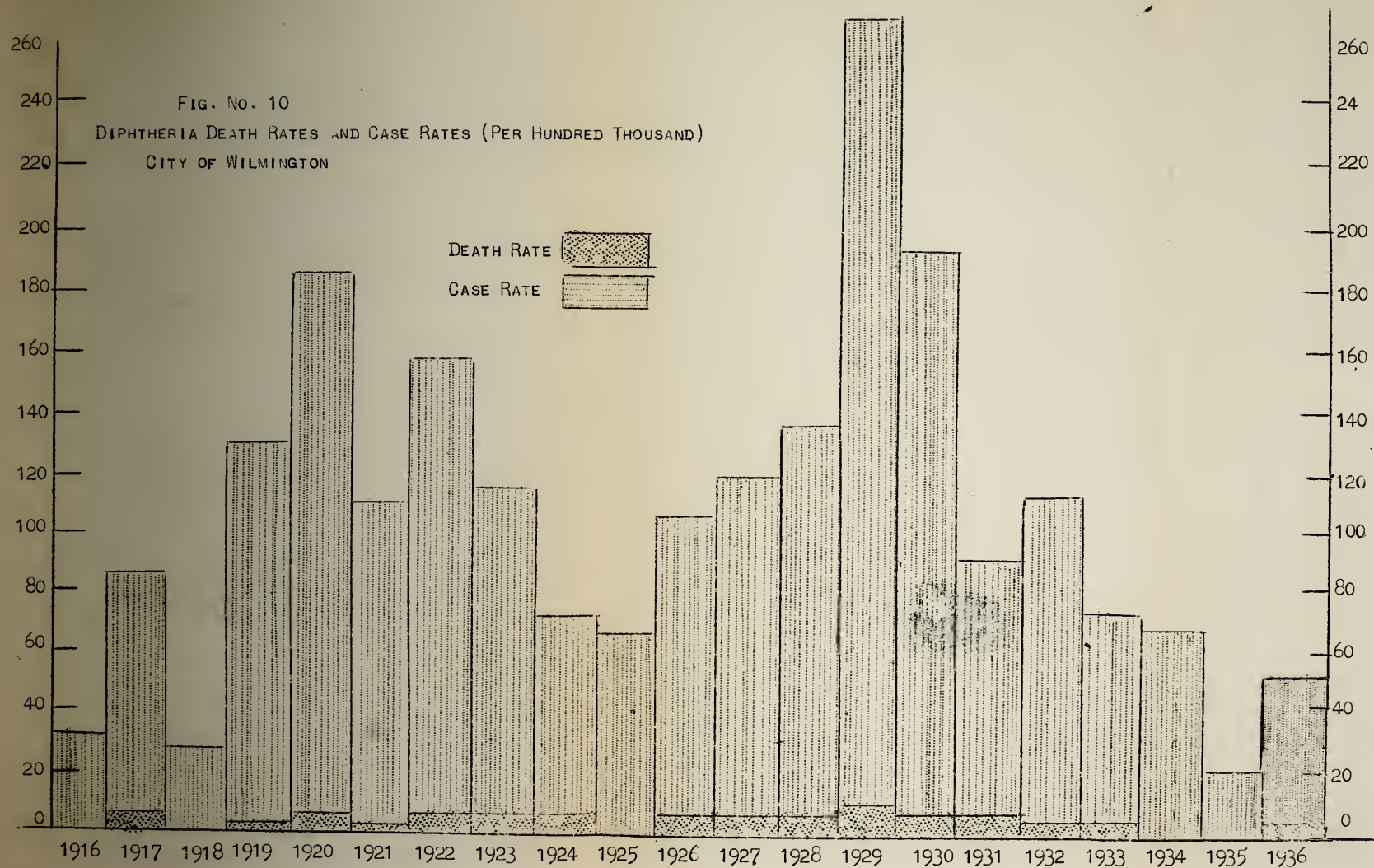
MALARIA DEATH RATE, CITY OF WILMINGTON
(PER HUNDRED THOUSAND)











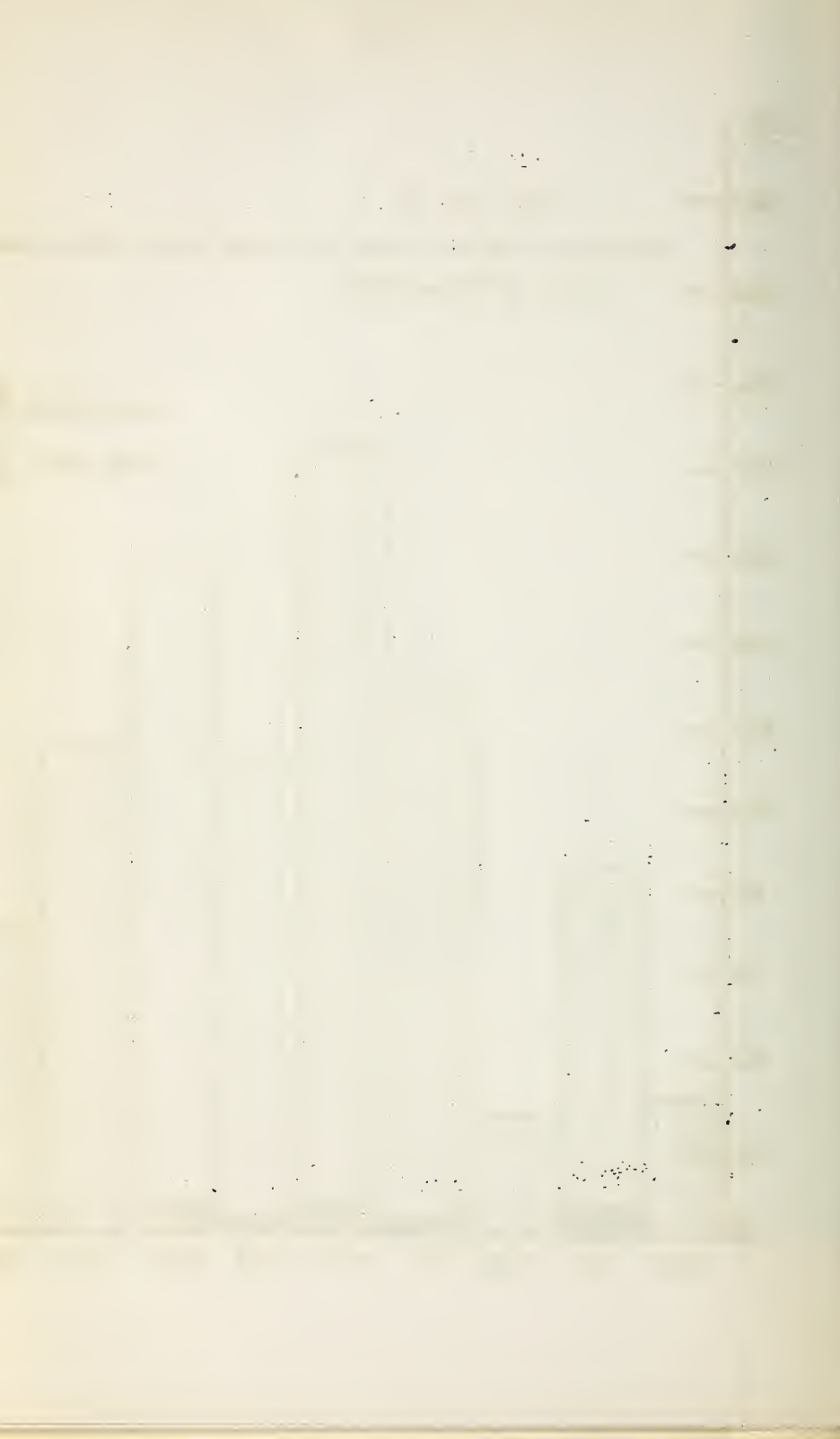
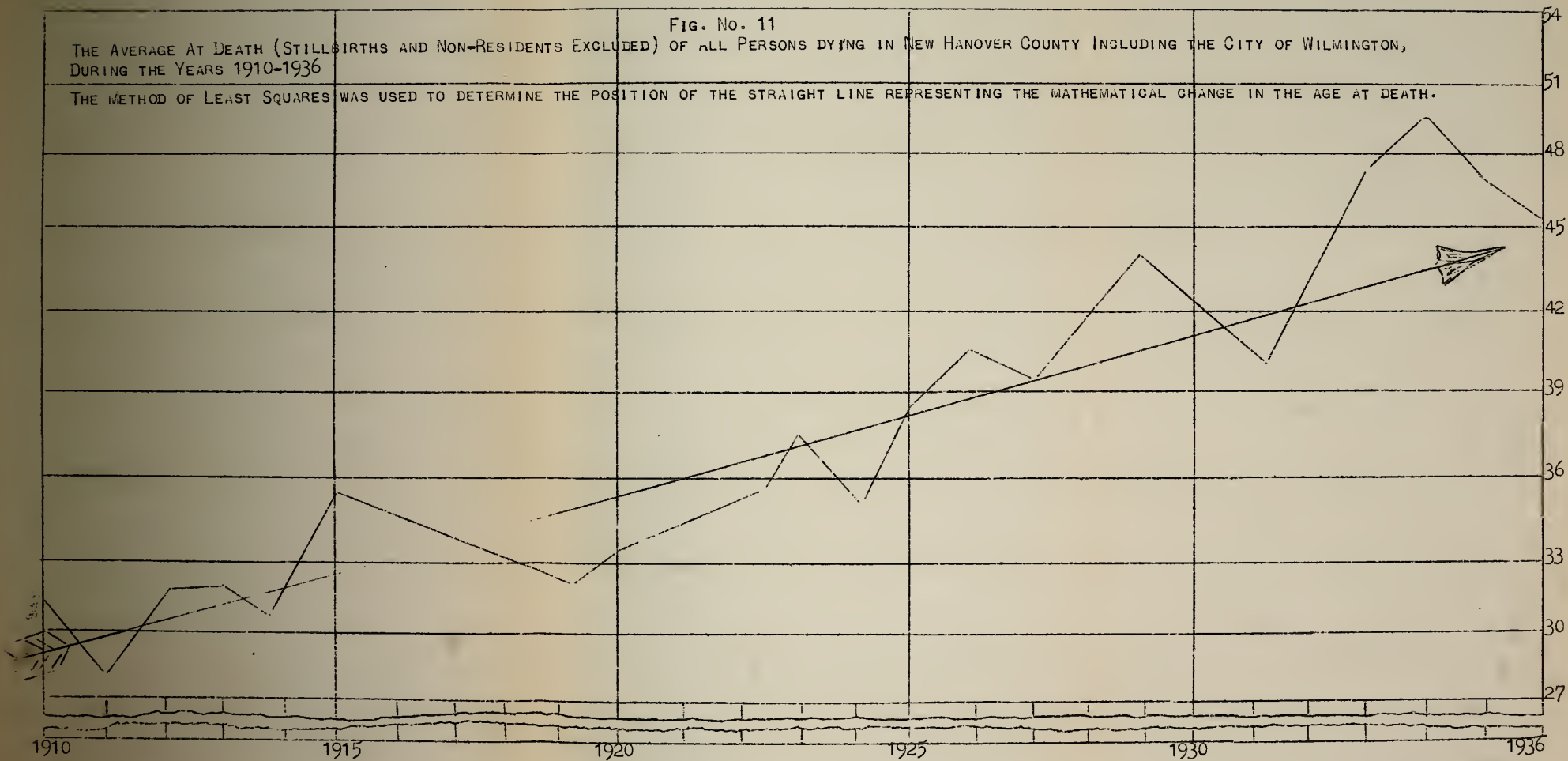
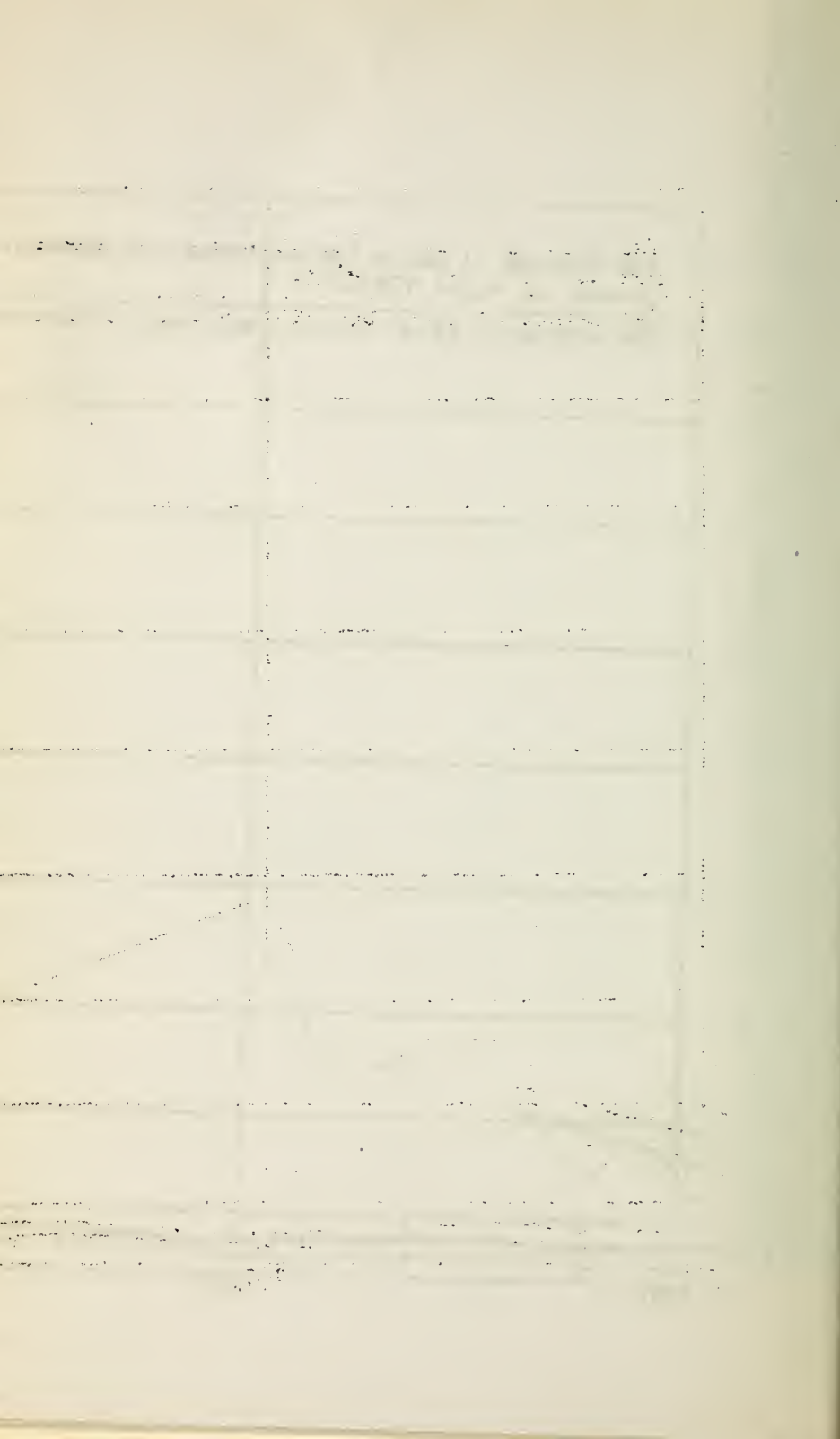


FIG. NO. 11

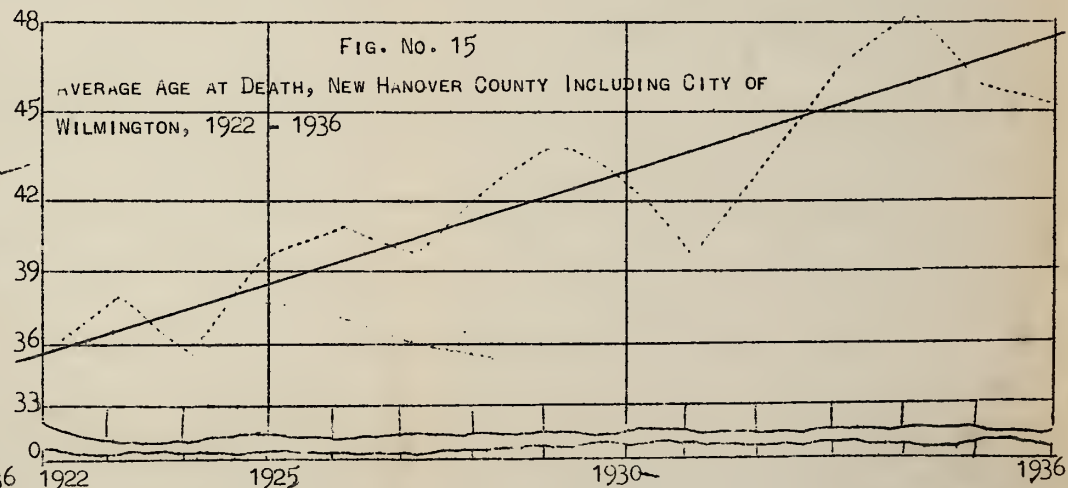
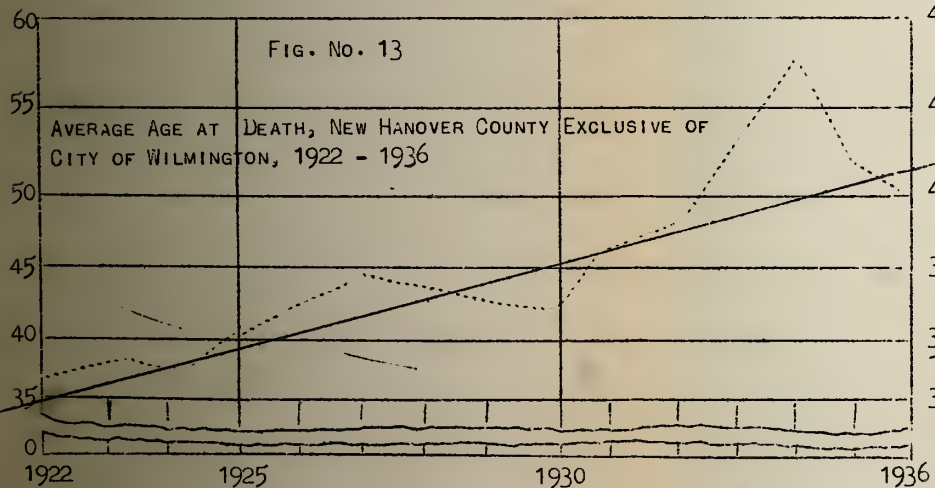
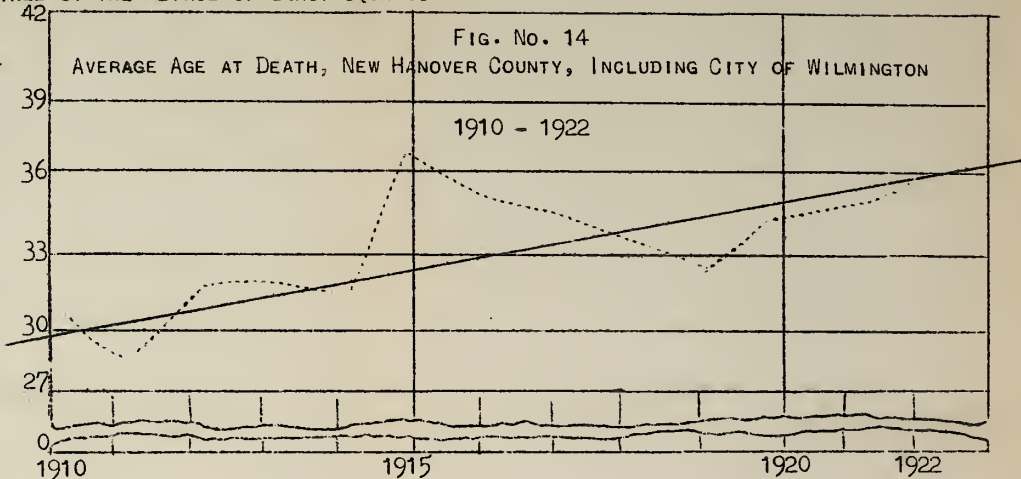
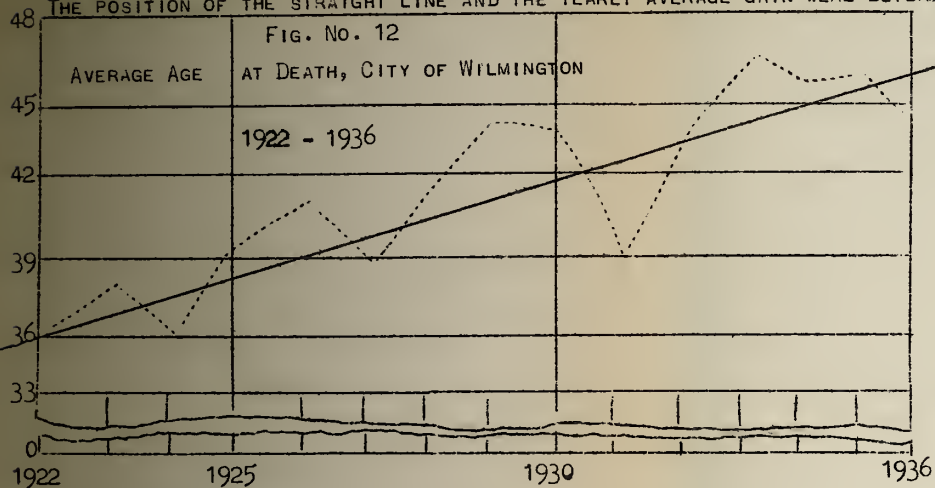
THE AVERAGE AT DEATH (STILLBIRTHS AND NON-RESIDENTS EXCLUDED) OF ALL PERSONS DYING IN NEW HANOVER COUNTY INCLUDING THE CITY OF WILMINGTON, DURING THE YEARS 1910-1936

THE METHOD OF LEAST SQUARES WAS USED TO DETERMINE THE POSITION OF THE STRAIGHT LINE REPRESENTING THE MATHEMATICAL CHANGE IN THE AGE AT DEATH.





IN THE PREPARATION OF THESE GRAPHS, ALL DEATH CERTIFICATES FILED IN THE COUNTY EXCEPT STILLBIRTHS AND NON-RESIDENTS, WERE USED.
THE POSITION OF THE STRAIGHT LINE AND THE YEARLY AVERAGE GAIN WERE DETERMINED BY THE METHOD OF LEAST SQUARES.



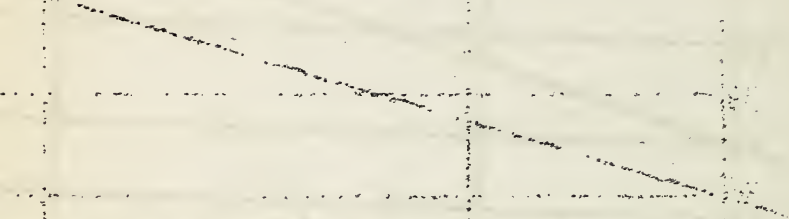
1. The first part of the paper is devoted to a general discussion of the problem of the existence of solutions of the system of equations

2. The second part of the paper is devoted to a detailed study of the case of the system of equations

3. The third part of the paper is devoted to a study of the case of the system of equations

4. The fourth part of the paper is devoted to a study of the case of the system of equations

5. The fifth part of the paper is devoted to a study of the case of the system of equations



6. The sixth part of the paper is devoted to a study of the case of the system of equations

7. The seventh part of the paper is devoted to a study of the case of the system of equations

8. The eighth part of the paper is devoted to a study of the case of the system of equations

9. The ninth part of the paper is devoted to a study of the case of the system of equations

10. The tenth part of the paper is devoted to a study of the case of the system of equations

11. The eleventh part of the paper is devoted to a study of the case of the system of equations

12. The twelfth part of the paper is devoted to a study of the case of the system of equations

13. The thirteenth part of the paper is devoted to a study of the case of the system of equations

14. The fourteenth part of the paper is devoted to a study of the case of the system of equations

15. The fifteenth part of the paper is devoted to a study of the case of the system of equations

16. The sixteenth part of the paper is devoted to a study of the case of the system of equations

17. The seventeenth part of the paper is devoted to a study of the case of the system of equations

18. The eighteenth part of the paper is devoted to a study of the case of the system of equations

19. The nineteenth part of the paper is devoted to a study of the case of the system of equations

20. The twentieth part of the paper is devoted to a study of the case of the system of equations

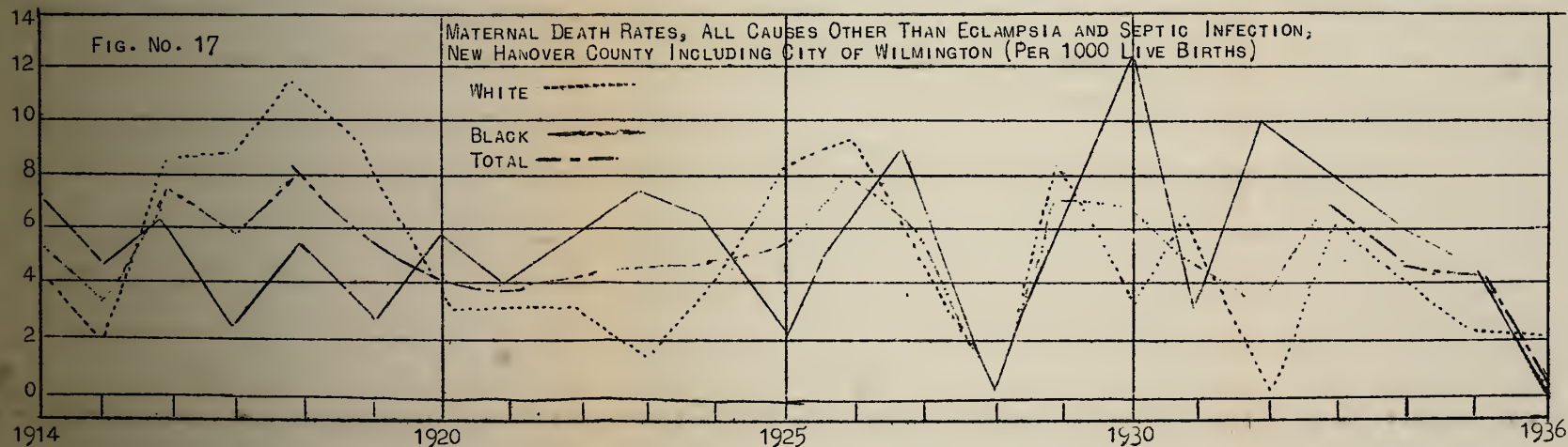
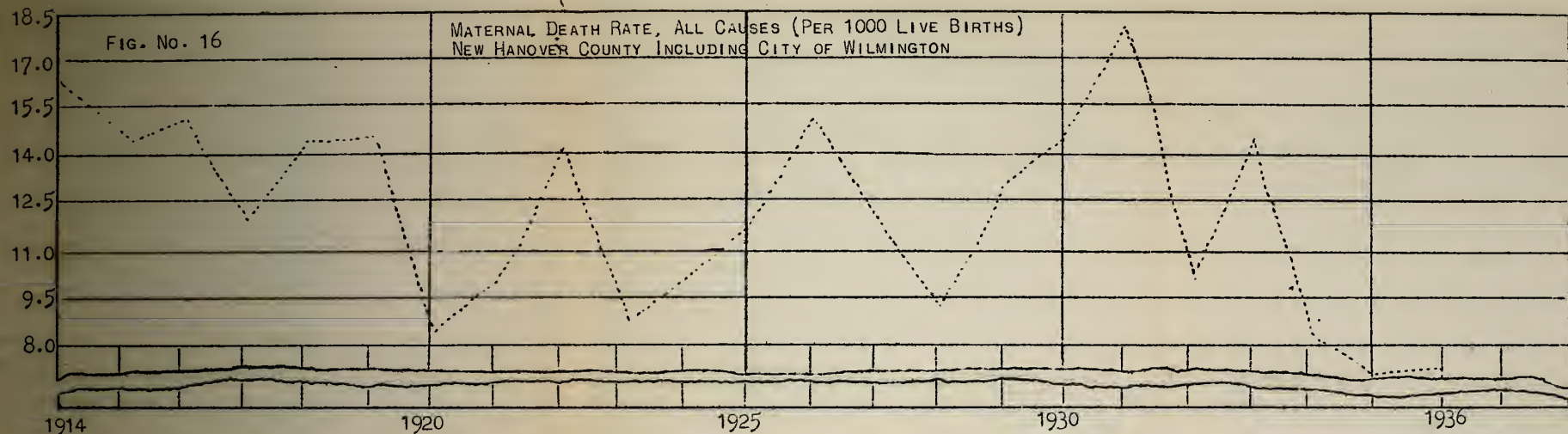
21. The twenty-first part of the paper is devoted to a study of the case of the system of equations

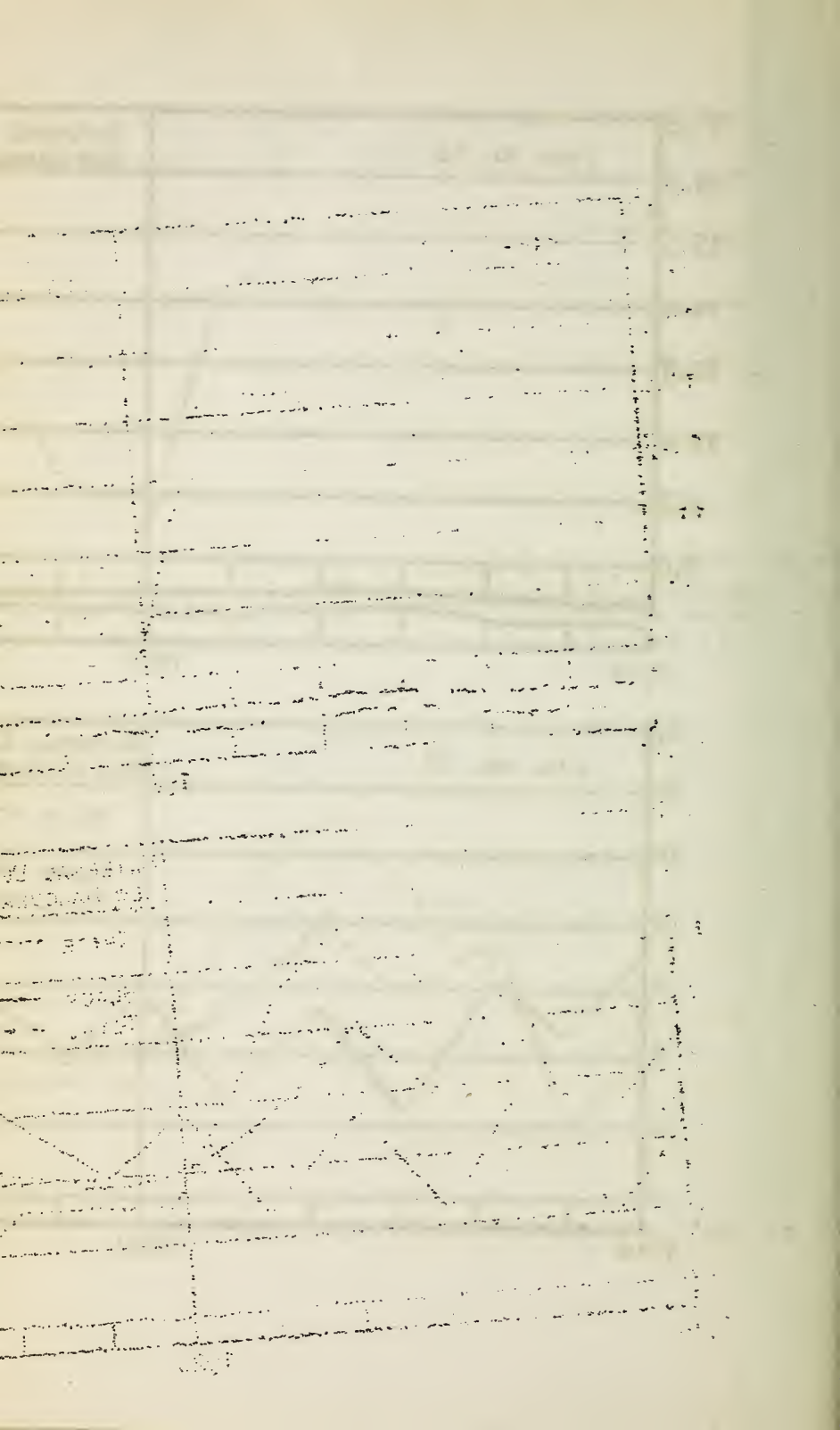
22. The twenty-second part of the paper is devoted to a study of the case of the system of equations

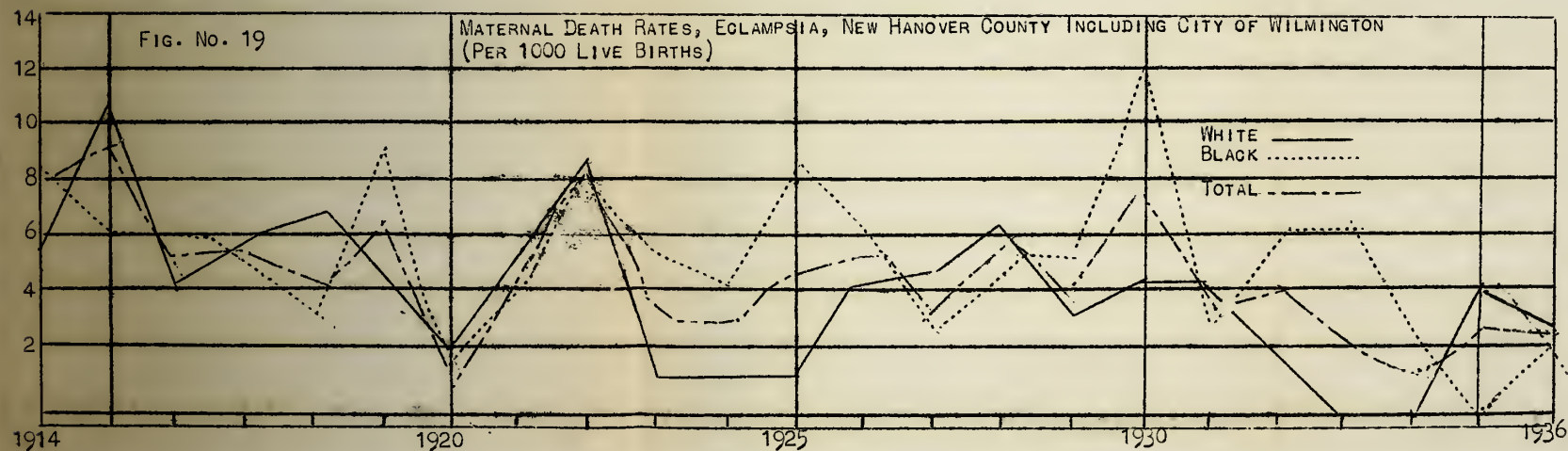
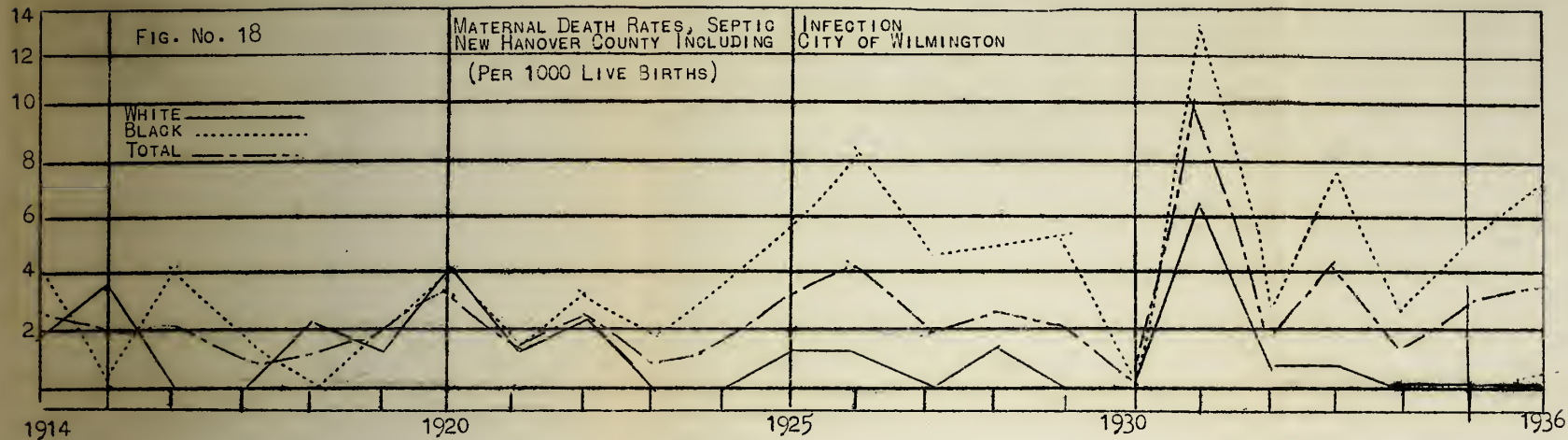
23. The twenty-third part of the paper is devoted to a study of the case of the system of equations

24. The twenty-fourth part of the paper is devoted to a study of the case of the system of equations

25. The twenty-fifth part of the paper is devoted to a study of the case of the system of equations







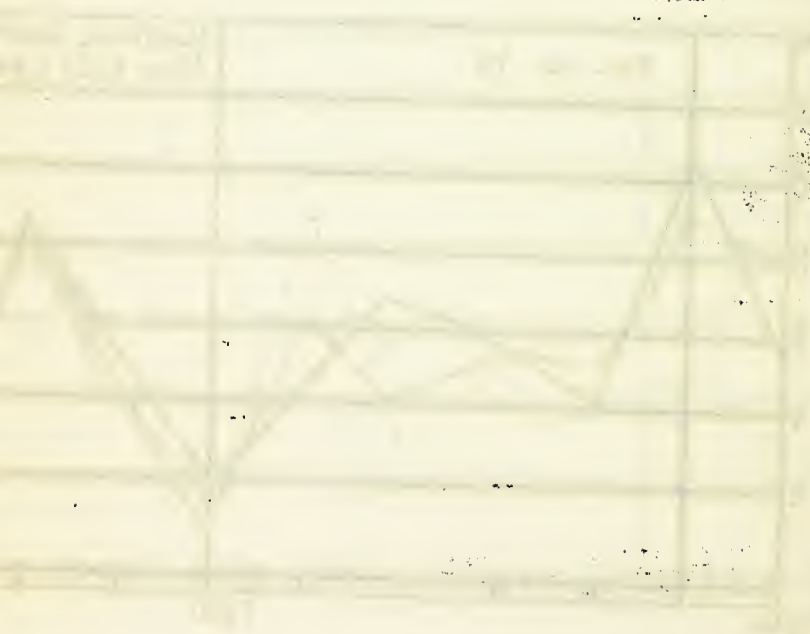


FIG. No. 20

NEW CASES OF SYPHILIS AND GONORRHEA

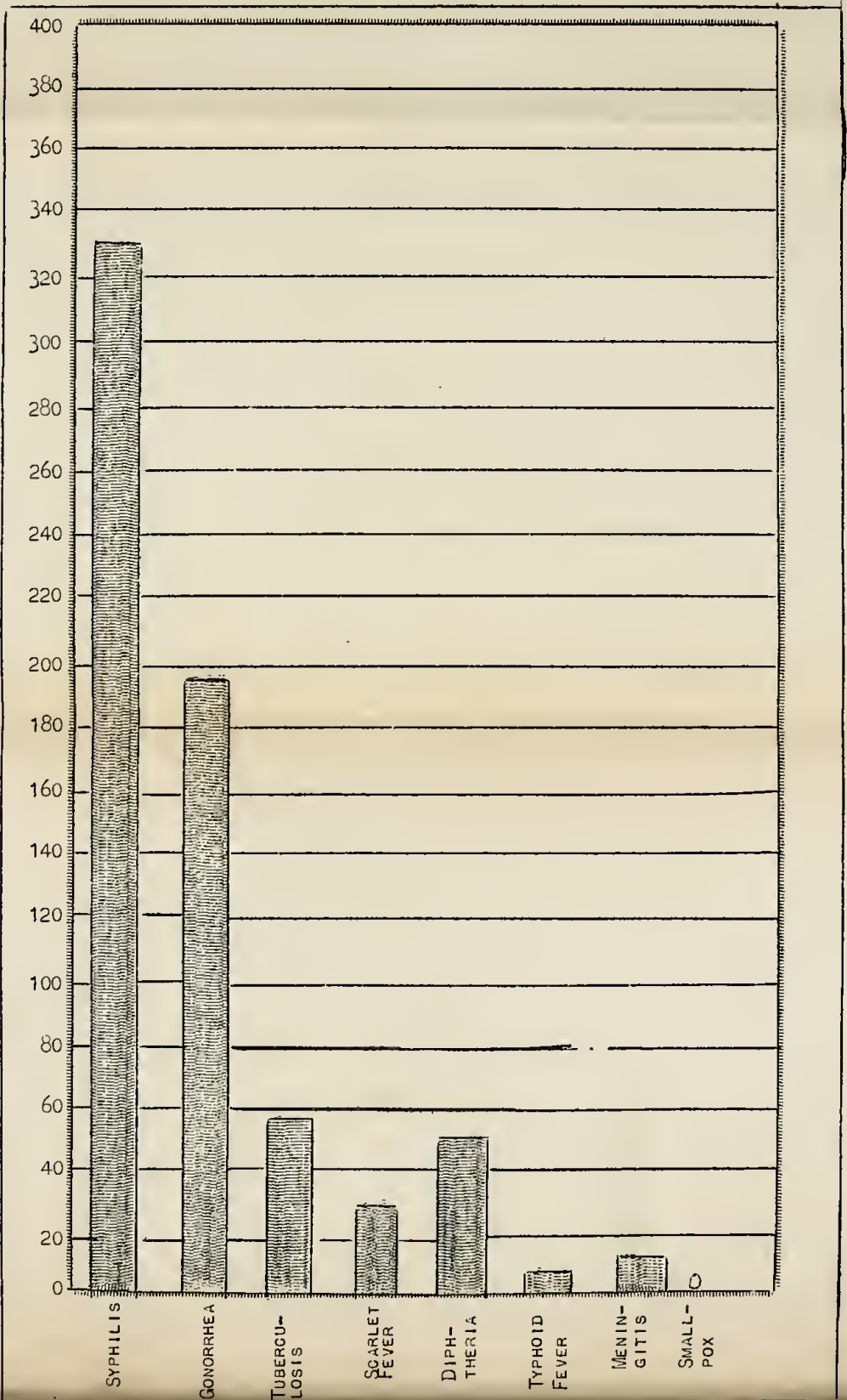
COMPARED WITH

OTHER COMMUNICABLE DISEASES

IN

NEW HANOVER COUNTY INCLUDING CITY OF WILMINGTON

1936





Consolidated Board of Health

WILMINGTON AND NEW HANOVER COUNTY

NORTH CAROLINA

ADDISON HEWLETT, Chairman
Chairman, Board County Commissioners

H. M. ROLAND,
Superintendent Public Instruction

WALTER H. BLAIR,
Mayor, City of Wilmington

W. HOUSTON MOORE, M. D.

J. C. WESSELL, M. D.

H. L. KEITH, D. D. S.

OFFICERS, EMPLOYEES AND AFFILIATES

A. H. Elliot, M. D.....	Health Officer
G. R. Carpenter, M. D.....	Assistant Health Officer and County Physician
R. P. Huffman, D. V. M.....	Food and Dairy Inspector
L. I. Lassiter.....	Sanitary Engineer
J. B. Edwards.....	Assistant Food and Dairy Inspector
Mrs. Lamont Smith.....	Secretary
Mrs. Sara Cantwell.....	Laboratory Technician
R. M. Kermon.....	Plumbing Inspector

PUBLIC HEALTH NURSES

Miss Columbia Munds.....	Supervisor
Paid by Ministering Circle King's Daughters	
Mrs. Addie Peiffer.....	District No. 1
Paid by Ministering Circle King's Daughters	
Miss Georgia Ezzell.....	County Nurse
Paid by Board of Health	
Miss Zou Mercer.....	District No. 4
Paid by Wilmington Chapter Red Cross and by Wilmington Public Health Nursing Association	
Mrs. Margaret Nixon.....	District No. 3
Paid by Wilmington Public Health Nursing Association	
Mrs. Jeannette Hall.....	County Nurse
Paid by Board of Health	
Miss Dorothy Bland.....	District No. 2
Paid by Board of Health	
Leonora Hargrave.....	District No. 6
Paid by Board of Health	
Clifford Richardson.....	District No. 7
Paid by Board of Health	

SANITARY INSPECTORS

W. H. Hancammon
F. P. Blanchard

H. W. Hunter
Porter Wagstaff

W. C. Haas
C. D. Rivenbark, Superintendent Incinerator

	White	Colored	Total
Population Rural New Hanover County.....	8,906	4,077	12,990
Population City of Wilmington.....	18,678	12,872	31,555
Total population City and County.....	27,581	16,944	44,546
Annual appropriation to Health Department.....			\$42,321.95
Appropriation to New Hanover County Mosquito Commission.....			2,500.00
Expeditures of Wilmington Public Health Nursing Association (Contributions).....			5,465.03
Total Official Agencies.....			\$50,286.98
Expense of trash, garbage, and scavenging collections is not included in health appropriations.			

Wilmington's milk supply comes entirely from tuberculin tested cows.

Wilmington has seventy-one miles of sewer mains.

Wilmington has a modern and efficient incinerating plant for the destruction of all garbage and refuse.

Wilmington is better drained than any southern coastal city.

Wilmington capital has supplied modern and up-to-date equipment for pasteurization of milk, and cold storage of meats and perishable foods.

WILMINGTON SUPPLIES ITS CITIZENS WITH SAFE AND WHOLESOME WATER.

New Hanover County has supplied every school, white and colored, with sanitary toilets.

UNITED STATES DEPARTMENT OF AGRICULTURE, WEATHER BUREAU

WILMINGTON, N. C.

ANNUAL METEOROLOGICAL SUMMARY, 1936

Latitude, 34-14.
 Longitude, 77-57.
 Elevation, 46 feet.

Month	Temperature			Relative Humidity		Precipitation		Wind			Sun-shine	No. of Days			SUMMARY			
	Maximum	Minimum	Mean	Normal	8 A. M.	Noon	8 P. M.	Total	Normal	Greatest in 24 Hours	Prevailing Direction	Average Hourly Velocity (Corrected)	Maximum Velocity (Corrected)	Percent of Possible	Clear	Partly Cloudy	Cloudy	Mean Temperature.....
January.....	71	18	44.2	46.5	79	61	71	4.00	3.29	0.86	NW	9.7	47	59	13	8	10	Mean Temperature.....
February.....	74	14	44.6	47.9	78	64	73	5.05	3.26	1.74	N	9.8	35	52	11	4	14	63.7
March.....	84	36	57.8	53.3	82	57	70	10.43	3.17	5.19	SW	10.7	37	61	12	6	13	Mean Percent of Sunshine.....
April.....	87	34	60.8	62.0	71	51	69	1.56	2.66	0.62	SW	10.5	35	69	15	6	13	65.
May.....	95	53	70.6	70.8	76	49	70	0.20	3.44	0.10	NE	8.8	22	83	17	11	3	Average Wind Velocity.....
June.....	95	60	78.5	76.8	78	58	76	3.57	5.10	1.59	SW	8.9	24	80	14	11	5	9.1
July.....	102	62	80.4	79.1	80	59	80	4.95	7.13	1.48	SW	9.2	28	75	9	15	7	Highest Wind Velocity.....
August.....	95	65	80.3	77.6	84	62	82	4.32	6.36	1.73	S	7.1	22	72	9	15	7	47.
September.....	90	58	76.4	73.1	86	64	81	4.25	4.51	1.37	NE	7.6	27	69	10	11	9	Total Precipitation.....
October.....	84	40	67.4	65.3	85	63	80	7.15	3.27	2.73	NE	8.7	30	65	14	7	10	55.02
November.....	80	26	54.5	56.0	80	58	75	3.03	1.96	2.78	N	9.1	28	64	13	9	8	Maximum Temperature.....
December.....	72	34	50.6	49.1	88	72	83	6.51	2.78	2.19	NE	8.7	30	36	144	108	19	102
Total.....	.....	.....	.....	.....	.....	.....	.....	55.02	46.93	.....	SW	9.1	.....	65	.....	.....	.....	.....14.
Mean.....	.....	.....	63.7	63.1	81	60	76	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Highest Temperature since 1871—103 Degrees in July 1879.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lowest Temperature since 1871—5 Degrees in February 1899.

